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**EPICYSTIC SURGICAL FISTULA FOR
CYSTOSCOPIC EXPLORATION;
INTRAVESICAL TREATMENT
AND DRAINAGE.¹**

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Epicystotomy has become an established and frequently practiced procedure, and the dangers incident to opening the bladder through the abdominal wall is so slight that patients suffering from almost any vesical trouble are encouraged to have the bladder opened for diagnostic purposes and treatment at a time when the general health remains unimpaired; a practice which, a few years ago, would not have been resorted to by the most aggressive surgeon.

Catarrh of the bladder, irrespective of its cause, is always followed by a series of consecutive pathological changes which, independently of the partial or complete interruption of the passage of the urine, tend to destroy life. A dilatation of the bladder and ureters by retention of urine may give rise to such a degree of distention as to destroy life from suspension of important functions by mechanical pressure. During the stage of inflammation a parietic condition may occur, the blood-vessels in the vesical wall lose their support, and transudation and exudation take place into the paravasculature tissue, which, combined

with capillary stasis attending this stage of the disease, results in sloughing, infiltration, pyæmia, peritonitis and death. The damming up of the urine may, and does often, cause surgical-kidney, epididymitis and tetanus.

The treatment of chronic vesical catarrh resolves itself into a consideration of the causes producing the disease, many of which, the presence in excess of certain inorganic constituents of the urine, stone, stricture and hypertrophy, are capable of correction; whilst others—such as malignant tumors and certain conditions of the prostate—may only admit of a palliation of the symptoms to which they give rise and the removal of which must be the first object in treatment. But when a parietic condition of the bladder exists provision must be made for the complete continuous emptying of the viscus; its thorough cleansing by frequent irrigation with hot sterilized water; and the promotion of a healthy tone in the mucous membrane and muscular structure of the bladder. The frequent introduction of catheters for drawing off residual urine and washing out the bladder has been productive of much harm, and, instead of giving relief, proved to be, by reason of their frequent introduction into the inflamed bladder to draw off the urine two or three times a day, a source of immediate and alarming symptoms. These facts are cogent reasons for adopting surgical

¹ Read before the State Medical Association of Alabama, April 11, 1889.

means in all cases of intra-vesical troubles as soon as a diagnosis can be made, and often when it cannot otherwise be made, for the complete emptying of the bladder, thorough cleansing, diagnosis, and intra-vesical treatment.

The epicystic surgical fistula is designed for drainage, introvesical treatment, and cystoscopic exploration, and may be divided for consideration under the following heads:

I. Definition of epicystic surgical fistula.

II. Surgical resources in the formation of the epicystic surgical fistula.

1. Preparation for the operation.
2. Anæsthesia.
3. Position.
4. Incision and opening bladder.
5. Intra-vesical exploration and treatment.
6. Toilette and after treatment.

III. Advantages of the epicystic surgical fistula.

1. Cystoscopic exploration.
2. Intra-vesical treatment.
3. Drainage.

I.—DEFINITION OF EPICYSTIC SURGICAL FISTULA.

Epicystic Surgical Fistula is the title here given to a supra-pubic fistula into the bladder created by the surgeon for exploration, intra-vesical treatment and drainage. A fistula, which, acting as an artificial urethra, is capable of giving free access to the inside of the bladder for cystoscopic exploration, to provide a ready, convenient and comfortable means of emptying the bladder at will, and gives the surgeon a competent opening into the viscus for intra-vesical applications.

It constitutes an essential element in the speedy and complete evacuation of the contents of the bladder in all epicystic operations, and imitates nature in the restoration of its own continuity and repair

as the pathological changes within the bladder subside.

II.—SURGICAL RESOURCES IN THE FORMATION OF THE EPICYSTIC FISTULA.

(1). *Preparation for the operation.*—

The presence of two assistants, though not necessary, may be of valuable aid. A temperature of 80° or 85° Fah. should be maintained in the operating room from the beginning to the end of the operation. All hair is to be shaved from the pubis and all the details of antiseptic surgery are to be carried out so far as cleaning the pubis and abdomen. The bladder is emptied and thoroughly washed with warm water. When the water returns clean the bladder is slowly distended with warm sterilized water thrown into the bladder by means of a fountain syringe, with nozzle in urethra—a degree of pressure sufficient to distend the bladder to its utmost capacity—which can never be too great for the resistance of the bladder. It is better to fail in filling the bladder than to distend the bladder beyond the limit of competency. Indeed it is not necessary to fill the bladder to any degree of resistance. I have operated when the bladder was in an irritable condition and would not tolerate distention greater than the capacity of two ounces, and had no difficulty in avoiding the pre-vesical fold of peritonæum or finding the bladder. The water is secured in the bladder by tying the penis at the base with a rubber tube.

A colpeurynter is next to be well oiled and inserted into the rectum—the rectum having been previously emptied by enema—and filled with warm water. This distention brings the bladder into view above the pubis.

(2). *Anæsthesia.*—My preference for chloroform is the result of my own personal experience with it. It is not free from objections, as its depressing effect upon the heart is well known. The operation usually occupies fifteen minutes; and,

hence, its prolonged use would be unnecessary and uncalled for. The objection to ether is the suppression of the excretions and the frequency with which bronchitis is produced when administered to persons advanced in years. The best course to pursue, when the operation is prolonged, is to follow the use of chloroform by ether. The patient must be kept profoundly under the influence of the anæsthetic from the first incision until the superficial wound is closed.

(3). *Position*.—The patient is placed on the back on an ordinary operating table with the legs extended as if in a position for perfect comfort and rest. Many surgeons claim advantages in the position recommended by Trendelenburg. Eigenbrodt emphasizes the fact¹ that the elevation of the pelvis in Trendelenburg's position² helps the surgeon to avoid the prevesical peritoneal fold at the time of the incision of the bladder.

I have employed this posture for intro-vesical operation by means of the suprapubic incision with no advantage over the ordinary flat-back position. With two openings in the bladder for a continuous stream of clear water I have no trouble in illuminating every part of the bladder with the electric surgical light and thus enabled to examine the entire intravesical wall. Undoubtedly the position recommended by Trendelenburg possesses advantages which, to the author more than myself, makes it highly ideal. As for myself I prefer and recommend the flat-back position.

(4). *Incision and opening bladder*.—A perpendicular incision three or four inches long is made in the median line above the symphysis pubis. The recti muscles are

separated to symphysis. If the pyramidalis are in the way, the fibres should be cut. The transversalis fascia is divided on a grooved director from symphysis to within one inch of upper margin of superficial wound. Instead of following Guyon's maneuver, I catch the bladder with a tenaculum on a line with the symphysis, through the prevesical fat, and cut through with a bladder knife into the bladder with one smooth, clean incision, to prevent undue disturbance of the cellulo-adipose tissue between the bladder and pubis, and avoid infiltration. I have never seen a case where it was necessary to put up the prevesical fat, and with it the peritonæal cul-de-sac. If the bladder is caught on a line with the symphysis and cut downwards, no fears need be had for the peritonæum. Cutting this prevesical fat prevents its after dropping down over the opening into the bladder and acting as a valve to prevent easy escape of urine and causing infiltration. And, too, such a procedure gives a smooth incision throughout, and it is almost impossible to have infiltration, even when no drainage tube is left in the bladder and the urine is left to flow out through the fistulous track and taken up by a layer of absorbent cotton. In making the incision into the bladder, no attention is to be paid to any vein or veins which are sometimes met with. If cut, they will stop bleeding when the bladder is dropped back and the rectal bag removed. The operation is usually bloodless in the sense of hæmorrhage. I have operated without the patient losing more than one drachm of blood.

(5). *Intra-vesical exploration and treatment*.—The finger is carried into the bladder and a thorough search made for any tumors, villous growths, or foreign bodies. The bladder is now emptied and the rubber around penis untied and the bladder well washed out with hot sterilized water. The bladder can now be examined with the cystoscope and surgeon's electric light. If tumors be found, if practicable they

¹L. c., p. 72. Cf. Lang, Med. News, Dec. 4, 1888.

²In Trendelenburg's position the patient's legs are held over the shoulders of an assistant with the body resting on an incline table, much in the position which hogs are swung for spaying.

should be removed; villous growths and any foreign body found should be removed. If nothing is found in the bladder, the surgical fistula, in the absence of malignancy, will be all that is required to relieve the cystitis.

(6). *Toilette and after treatment.*—The bladder is allowed to drop back into the pelvis and the superficial wound so closed by two sutures (including the skin and superficial fascia only) in the lower portion of the incision and one in the upper portion of the incision, as to leave a fistulous track of equal size from bladder to juncture of upper third and middle third of the superficial incision. A large rubber catheter is now to be introduced into the bladder through the opening and its distal extremity allowed to enter a urinal placed in the bed between the patient's thighs, or preferably at the patient's side. Professor F. Trendelenburg, director of the surgical clinic of the University of Bonn, proposed, for draining the bladder in supra-pubic lithotomy, the T-tube in latero-abdominal position and open wound treatment as the simplest, safest and best. He makes an antiseptic dressing of iodoform gauze around the T-tube. There can be no real necessity for a tube of any kind to be introduced into the bladder for the purpose of conveying the urine from the bladder to prevent infiltration, irritation of superficial fascia and soiling of dressings.

If the urine is kept acid, by the administration of citric acid or some other more palatable acid drink, no better antiseptic than the acid urine can be secured for the constant bath of the parts. It should be allowed to flow out through the wound and absorbed by a pad of absorbent cotton placed loosely over the wound, and removed as often as soiled by the outflowing urine. By this method of emptying the bladder, no possible small amount of urine can be impeded in its outflow, which is the case around and outside of the tube, when catheter or tube is left in for any length of

time—a source of no little annoyance at times. This little collected or retained urine, around the outside of the tube alone, I have seen produce a hard chill and elevation of temperature, and become for the time an immediate, alarming and aggravating source of trouble. I never have seen the skin made sore or chafed by the outflowing urine in epicystotomy, or from its after escape through the surgical fistula.

The bladder should be washed out twice daily with hot sterilized water, by means of a fountain syringe, with its nozzle introduced into the urethra, the water escaping through the epicystic fistula and guided into a bed-pan under the patient. The superficial stitches are taken out at the end of a week, and intermittent catheterization by the fistula is then resorted to for the sole purpose of training the fistula and prevent its rapid closure. It is not necessary to catheterize for the purpose solely of drawing off the urine. In one case I never drew the urine save for the purpose of analysis, but occasionally introduced a rubber bougie to prevent the closure of the fistula. The drainage by the fistula alone is admirable, and the fistula will be well formed in twenty or thirty days, competent to retain urine without dripping and to allow its escape in a good projecting stream at will. With no tearing of the tissues, and, with a clean cut, the drainage is perfect and the dangers are *nil*.

III.—ADVANTAGES OF THE EPICYSTIC SURGICAL FISTULA.

(1). *Cystoscopic exploration.*—Nitze has by means of the cystoscope been enabled to diagnose tumors of the bladder in nine cases in which rectal palpation, the sound and other means had furnished negative results. One of the great difficulties in the cystoscopic exploration of the bladder is the presence of pus, mucus, and sometimes blood, which renders it exceedingly difficult to maintain a translucency of the fluid used to distend the bladder.

By means of a simple fountain syringe a constant current of clear water may be kept within the bladder so essential to a complete observation of the trigonum Lieutaudii, the most interesting part of the viscus, the ureters; and to examine any affection of that viscus. The fistula may be made for temporary purposes of cystoscopy by the Peterson - Guyon - Perier operation; but I can see great advantages from a different operation, by Dr. Hunter McGuire, the object of which tends to eliminate as well as detect the trouble within the viscus; and, too, in the final construction of a permanent fistula, gives an easy after-method of exploration, and makes a better artificial method by reason of its length and extension upwards of two to three inches. Diagnostic purposes are met by the possibility of immediate detection of all local conditions, such as tumors, calculi, foreign bodies, neoplasms, the collection of fluids from the ureters, etc.

(2). *Intra-vesical treatment.*— Having by means of the epicystic exploration revealed the true nature of the intra-vesical trouble, the treatment resolves itself into the immediate necessities of the case. For instance, prostatectomy may be necessary, villus papilloma may be found and should be remedied; pedunculated growths may be found which should be removed by the scissors or Paquelin's cautery, etc. In such cases, the opening in the bladder sufficient to introduce the finger, should be enlarged downwards under the symphysis pubis and the operation indicated should at once be performed. The object of the formation of the permanent surgical fistula is to meet the after-indications in such operations, the details of which does not properly come within the province of this discussion. However, it is sufficient to state, what is reasonable and practicable, that a better means by which the intra-vesical wall can be reached and treated therapeutically has not yet been devised.

(3). *Drainage.*—Permanent after-drain-

age in all intra-vesical operations can not be necessary; but is highly essential to secure good and sufficient drainage until the paravascular tissue is disengorged, the cystitis is relieved and the urine becomes normal and passes per urethra unobstructed. And until this end is attained complete artificial arrangement for the escape of the contents of the viscus must be made. In such cases of prostatic hypertrophy or malignant growths when removal of the obstruction is impossible or contra-indicated, the epicystic surgical fistula is clearly indicated and essentially necessary. It meets every possible indication for local treatment and gives the only controllable, ready and free drainage to viscus and kidneys. Urinary back-pressure as the result of incompetency of the urethra from the various immovable prostatic troubles is often an immediate and remote cause of surgical-kindey, which can only be removed or relieved by supra-pubic drainage. In conditions of the bladder, of long standing cystitis as in the case reported by me in the *Virginia Medical Monthly*,¹ in which the urethra, though made competent by cutting, was not sufficient to keep the bladder emptied without catheterization—a procedure which kept up a constant vesical inflammation, which, combined with capillary stasis attending the inflammatory process, resulted in paresis.

I now have the pleasure of introducing that case, Mr. T. A. Nixon, to you, fifty-eight days after the operation. His condition to-day is sufficient guarantee for all I have said in favoring the formation of an epicystic surgical fistula for the relief of chronic vesical catarrh. The result in this case is more than I promised. He can retain his urine several hours and without dripping of urine or pain to bladder. Urine completely under control and bladder relieved of pain.

¹ *Virginia Medical Monthly*, April, 1889.

Alabama Medical and Surgical Age, April, 1889.
New York Medical Journal, April 13th, 1889.

**TWO CASES IN WHICH LITHOLAPAXY
WAS IMPOSSIBLE.**

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The operation of litholapaxy is applicable to almost all adult cases of vesical calculus, yet a few instances occur in which it cannot be performed, of which the following cases are examples:

Case 1.—This patient was aged 23 years, and somewhat broken in health by the cystitis caused by his calculus. The urine, however, was free from any signs of sugar or kidney casts, and showed only so much albumen as might come from the pus formed in the bladder. Bimanual examination showed no enlargement nor tenderness of the kidneys, so that in spite of the discovery of a very large stone in the bladder, and of the presence of a good deal of cystitis, he was not in a desperately bad constitutional condition. I prepared him for litholapaxy by washing out the bladder for two days with antiseptics, and giving quinine freely.

The rectum having been emptied, the patient was anesthetized, and again sounded. The stone lay back close to the rectum, and the bladder was deformed by the presence of an inflammatory mass in front, pressing the anterior wall backward. After filling the bladder with warm carbolyzed water and introducing a lithotrite of large size, I found that the jaws had to be spread very widely to seize the stone, and when force was applied they slipped off without breaking it. Many repetitions all ended in the same way. The jaws would not hold, no matter on what side they seized the calculus. Litholapaxy was impossible, and I was compelled to desist and to perform supra-pubic lithotomy instead. The pubis being shaved and disinfected, I introduced into the bladder the French instrument called the *sonde à dard*, which is a long and large canula, having the shape of a silver catheter, but carrying in its interior a curved steel dart with a

groove on its anterior surface. The object is to insert the instrument enclosing the dart and press its tip against the front of the bladder close to the top of the pubis so that it can be felt with the finger in the bottom of the primary incision, and then to protrude the point of the dart through the bladder into the external wound, and finally enlarge the puncture by using the dart as a grooved director, and sliding a bistoury along it into the bladder.

The instrument was a total failure in this case. The chronic inflammation of the viscus had extended through the front wall of the bladder and developed a thick mass of indurated cellular tissue through which the sound could not be felt. Even the sharp dart could not be made to pierce it. The *sonde à dard* failed as completely as the lithotrite had done, and the incision was therefore carried down in the ordinary way with the scalpel alone, and the cavity with the stone in it was at last reached well down against the rectum, after a dissection of alarming depth. The stone was then extracted without very great difficulty, though I was compelled to enlarge the wound considerably, on account of the great size of the calculus. It measured over three inches in diameter. On trying the lithotrite upon it outside the body, the reason of the failure of that instrument to bite through it was obvious. The jaws of even the largest lithotrite are too short to grasp the center of a stone three inches in diameter. The tips of the beaks catch feebly on the sloping sides, and instantly slip off without breaking the stone.

The wound was dressed antiseptically and without sutures. It healed pretty rapidly, considering its large size, and the patient recovered without any dangerous symptoms.

Case 2.—A boy 17 years of age had a stone of about an inch and a quarter in diameter, which proved to be composed of calcium oxalate. The usual preparations were made for litholapaxy, and the patient

placed on the table and etherized. On seizing the stone it was found excessively hard, and resisted the utmost strength of my hands in trying to break it. As the instrument was made by one of the very best Eastern makers, and I had tested it on pieces of hard brick when I bought it, I had great confidence in its strength. I therefore requested my assistant to grasp the handle of the female blade and hold it firmly with both hands, while I turned with the strength of both my own hands on the male blade, thus doubling the power. At first we effected nothing, but a little later, as we put forth our whole strength, there came a sound of a smothered metallic clink from within. I immediately loosened the grip and shook the stone loose from the jaws, and then discovered that the blades were held apart, and for some time could not be closed. However, after repeated trials the jaws closed together and I drew the instrument out. The female blade was found cracked half across, about two inches from the inner end, and a slight spring of the broken edge inward was what caught the male blade and prevented the closure. It was an awkward situation, for the instrument could not be drawn out with the jaws open, and had I been totally unable to close them, I should have been obliged to open the bladder widely through the perineum, pry the jaws downward through the wound and send for a mechanic to file off the shank, as in no other way could the instrument be gotten out.

My mental equanimity, therefore, was greatly promoted by the closure of the jaws, and I set to work very cheerfully to perform lateral lithotomy in the usual manner, removing without difficulty the hardest stone I ever met. I at first fancied I should find some metallic object in it as a nucleus, but on sawing it open, I found nothing but the usual blackish oxalate to the center.

The patient recovered without the slightest unfavorable symptom.

The moral of the tale is this, that however well an instrument of this sort may be constructed, it is not safe to apply the force of two strong men to the twisting of its handles.

I think, however, that a special lithotrite could be constructed for these rare cases, with a larger shank, and with jaws a little deeper from back to front, which would break the hardest calculus, unless it were accreted on a piece of iron or steel for a nucleus. It would also be necessary to increase the power, either by giving the thread of the screw a lower pitch or increasing the diameter of the handles.

NO 6 SIXTEENTH STREET.

EXTRACTS AND ABSTRACTS.

The Treatment of Confirmed Catheter Life by a Permanent Perineal Opening.—

WALTER WHITEHEAD, F.R.C.S. Edin., Surgeon Royal Infirmary, Manchester, in a paper read before the Medical Society of London, March 14th, 1889, said:

I am quite aware that I am treading very closely upon the heels of those who have recently and very ably brought before the notice of this Society matter kindred in character to the subject of my communication, but I intend, so far as the interest of my subject will permit, to avoid going over any of the ground traversed on previous occasions.

My immediate object this evening is to submit for your consideration a plan which I have for some years found to be effectual, and I believe to be novel, in the treatment of men suffering from enlarged prostate who have not only arrived at catheter life, but have advanced to the stage when all prospects of their ever again being able to pass urine in the natural manner have to be abandoned as hopeless.

In these cases, Sir Henry Thompson, the veteran pioneer of all that relates to bladder surgery, advocates one of two plans: either the permanent retention of a tube

through an opening established in the bladder above the pubes; or the plan of suspending the action of the bladder from seven to ten days by the temporary maintenance of a drainage-tube through the perineum. By the latter plan, he says, speaking of one case, "the relief was immediate and most remarkable," but he is compelled to admit that in every instance the patients have had sooner or later to resume their original practice of passing the catheter.

From Mr. Reginald Harrison's admirable Lettsomian lectures, I gather that he is in favor of drainage from the perineum. Previously we had those who were successful in many cases in relieving their patients by the constant use of retained catheters. As an alternative plan of treatment, we have also prostatotomy and prostatectomy, and more recently the suprapubic prostatectomy of Mr. McGill. Each of these plans appears to have fulfilled to a certain extent the purpose for which it was designed, but not one of them embraces the entire condition, or provides all that is desired in confirmed prostatic obstruction. For instance, the high outlet of a suprapubic opening leaves that particular part of the bladder which most requires drainage more remote than ever from the benefit of treatment. The perpetual presence of a perineal drain-tube is even less tolerable than a retained catheter, and a retained catheter can only be borne by a limited number of those who might otherwise be benefited by its use, and it is questionable whether the presence of these tubes does not as a rule aggravate the mischief and shorten life.

Mr. Harrison is singular, I believe, in the view he entertains that the prostate undergoes a diminution in size owing to the influence of the prolonged retention of a tube, and I am not aware that he claims to have had more than one case where the benefit from this plan has been more than partial and temporary. ●

Perineal prostatectomy appears to me an operation without any of the advantages of precision. You can neither regulate the amount, nor define the limits, of what you remove, and there is always the possibility that an undue mass may be taken away and permanent incontinence result.

McGill's suprapubic prostatectomy has, at least, the merit of affording the operator an opportunity of seeing the overgrowths, which project into the bladder, *in situ*, but it affords no facilities for the removal of those growths which are confined to other portions of the prostate. The results of the cases reported by Mr. McGill were most excellent, but the number was small, and the conditions under which they were operated upon were exceptional. The mortality of suprapubic cystotomy in men over 50, it must be remembered, amounts to over 33 per cent., and this mortality is not likely, in the long run, to be lessened by the additional risk which must necessarily attend prostatectomy.

About six years ago I was more than ever impressed with the desirability of avoiding the pain and inconvenience which attend the constant passage of catheters; and I also became more familiar about this time with the facility with which a bladder could be entered for the purpose of digital exploration, and the idea occurred to me that at least three most important desiderata might be attained by a perineal urethrotomy. The bladder could be drained, it could be given necessary rest, and a considerable length of urethra would be relieved from the irritation of repeated catheterism. In consequence of the relapses which almost invariably followed the closure of the perineal wound and the re-establishment of the *status quo*, I further decided to maintain permanently the direct passage through the perineum. In the conception of this operation advantage was taken of the fact, which had been generally overlooked, that an opening in the mem-

branous urethra does not involve, as many suppose, incontinence of urine.

I am aware that there are numerous instances on record where, after perineal cystotomy, the wounds have failed to heal, and a permanent fistula has remained; but in these cases the fistulae have been accidental, and never, to my knowledge, have they been claimed as the result of a deliberate intention on the part of the operator. And, further, a perineal fistula in itself would afford no advantage; but if the fistula is made, and utilized in the manner I have to propose, then it becomes the key to the difficulty which attends the treatment of prostatic enlargement. I will now proceed, in the first place, to describe to you the operation itself, which differs in no essential detail from an ordinary median urethrotomy. A staff is passed into a previously moderately distended bladder. A lithotomy-knife, with the edge upwards, is plunged directly into the groove of the staff from a point an inch above the anus to a point a little in front of the prostatic apex. I prefer to enlarge the skin incision as I withdraw the knife, leaving the external wound, when finished, about an inch in length, and directed from the raphé toward the center of the space between the anus and the left tuber ischii. As the staff is withdrawn the finger is passed into the bladder when possible, and the opportunity is taken of making a digital exploration. When nothing is discovered admitting of immediate operation, the tube I have been at some pains in getting made to my satisfaction is introduced and maintained by a T-bandage, which I have found quite as effectual and much more comfortable to the patient than tapes. My preference for enlarging the external wound by one sweep of the knife during its withdrawal, in the place of cutting down on the staff by repeated incisions, is to secure a clean section and thus avoid an irregular wound, which gives greater facilities for the lodgment of discharges. The limited space between

the point where the knife first enters the urethra and the rectum does not afford sufficient room for a wound which is required to remain permanent unless the incision be made obliquely in the manner described. The original opening in the skin should be made large enough at first, as it will then last for years without the necessity of dilating; but, if made too small, it may require enlargement within a few weeks of the operation. This, though a small matter to the surgeon, is generally a subject of considerable concern to the patient. It is the cicatricial contraction of the skin, and not of the deeper parts, which gives rise to this trouble.

Having obtained a short and wide passage of communication with the bladder, through which we experience no difficulty either in withdrawing the urine or in frequently injecting, with force and volume, large quantities of fluid, our next desire is generally to subdue the cystitis which usually exists, in as expeditious a manner as possible, and for this purpose there is nothing, as a rule, more simple or effectual than hot water. In order that this should be successful, the temperature should be gradually increased up to 120° F. Most patients can be induced by degrees to tolerate such a heat with comfort, and the higher the temperature, the greater the sedative effect.

There is nothing to be gained by using drugs simply for their germicide properties. What we require is something to scour from the tender mucous membrane every drop and particle of irritating matter. I have found creolin to excel every other drug in concealing, if not correcting, the putrid smell of some urines, and if the urine is loaded with tenacious viscid mucus, hot solutions of sea-salt appear to answer best.

One of the few drugs I have found of undoubted benefit in cystitis is the oxymuriate of bismuth. I was induced to try it from its well-known sedative influence

upon the inflamed urethra. The plan of using it is to introduce a drachm, well agitated in four ounces of hot water, after the bladder has been thoroughly washed out. The ponderous character of the bismuth causes that which does not adhere to the mucous membrane to precipitate behind the prostate. Patients invariably express their satisfaction at the comfort they derive from this treatment. They state that the desire to micturate is not so frequent, and that the reflex pain along the urethra is diminished. It is necessary to remove the whole of the bismuth by irrigation before administering a second dose, as the bismuth undergoes chemical changes in the bladder, being most probably converted into a sulphide possessing no known therapeutic advantages.

I will now very briefly mention the particulars of three cases I have treated in this manner. I could supplement them with others were it desirable, some in which the results have been equally satisfactory, and others where the benefits have been limited to giving relief in hopeless cases during the last few weeks preceding death.

One of my earliest cases was a merchant, J. S., now 70 years old. I operated upon him in November, 1884, after he had been suffering for ten years from enlarged prostate and cystitis. He had all the usual symptoms in an aggravated form, and was compelled to abandon his business. The operation was perfectly successful, and he made a rapid convalescence. I lost sight of him for a number of years, owing to his removing out of town to reside in one of the suburbs. Within the last month I was successful in again finding him, and he reports himself as being quite cured, free from all discomfort, can retain his urine four hours, and attend to business and the Exchange regularly. He continues to withdraw his urine through his perineal aperture; and the urine is normal in every respect.

The next case I wish to mention is a very

typical one, and will, I think, clearly illustrate all the features and advantages of the operation. Last June I was consulted by a gentleman, aged 63, who had suffered from symptoms of enlarged prostate for eight years. He was passing muco-purulent urine almost every quarter of an hour, night and day, and his general health was rapidly giving way under the constant suffering and loss of sleep. Being averse to any operation, he struggled against fate for five months, hoping against hope, and washing out his bladder with every possible solution until the climax came and he had to surrender. The catheterism became intolerable, and the urine, in addition to the pus, was rarely free from blood, and had a putrid odor.

In November I performed perineal urethrotomy, and introduced a full sized india-rubber tube, which was removed at the end of three weeks. I may here remark that when the tube was removed a globular phosphatic concretion, the size of a marble, had formed at the end of it, and caused considerable laceration of the passage in its removal, showing the desirability in highly phosphatic urines of removing the tube at short intervals. From the day of the operation the bladder was washed out with a hot solution of boroglyceride every four hours, night and day, and after the tube was removed the same practice was continued through a No. 12 soft india-rubber catheter passed every four hours through the perineal wound. The effect of the operation was immediate and really magical. The pain disappeared, sleep returned, and in six weeks he could retain his water for five hours. Now he can go about and visit his friends, having perfect confidence in the capacity of his bladder and the integrity of his sphincter. His urine is clear and free from albumen.

The last case I shall refer to is interesting, as it illustrates the application of the treatment in a somewhat different condition of the bladder.

In September of 1885 I saw with Mr. White, of Warrington, a young gentleman, aged 22, suffering from what at first appeared to be an acute attack of cystitis, but which subsequently was supposed to be an instance of periprostic abscess, bursting in the bladder. For twelve months he was treated on a regular system of bladder-irrigation through a catheter, but after a few months the urethra became so tender that smaller and smaller catheters had to be substituted, until eventually he expressed his inability any longer to stand the suffering the catheters caused him. In August, 1887, I performed perineal urethrotomy, and, at the same time, took the opportunity of exploring the bladder. The supposed condition was confirmed, a large abscess cavity opening into the base of the bladder on the left hand side being discovered. From this time (upwards of two years ago) the bladder has been regularly washed out every four hours through the perineal wound by means of a Bigelow's No. 17 catheter and a twenty-ounce brass syringe. In the intervals of the washing, the patient can retain his urine without the slightest inconvenience, and he is now in the habit of driving about, and capable of attending to business. The quantity of pus is slowly but certainly diminishing, and there still remains reasonable prospect of the abscess cavity eventually closing.

I may also mention that I have also adopted the operation with success in some cases of persistent hæmaturia of obscure origin.

The advantages of the operation are, in the first place, to enable the bladder to be completely relieved of its contents whenever desirable, and by this means to derive all the benefits of physiological rest. Secondly, it provides a channel through which we can substitute a thorough for an imperfect system of washing out the bladder, the elasticity of the membranous urethra permitting the introduction of a larger catheter than the penile urethra will

admit. The size of the catheter admits a greater and more forcible volume of fluid to be used for irrigation purposes, by which means we can more effectually dislodge the adherent mucus, and remove pus and any particles of calcareous matter lodged behind the prostate, or in the cavities of any sacculi, should they exist. This reduces and economizes time and lessens the risks to the patient due to prolonged exposure. At each washing, six inches of the most sensitive part of the urethra escape the irritation produced by the passage of a catheter.

By the maintenance of the permanent opening we avoid the relapse which almost invariably takes place when the opening is allowed to close. It affords a speedy means of converting a putrid into a pure urine, and finally, from the cases I have operated upon, it would appear that all the inconveniences attending enlarged prostate are permanently arrested without incurring the risks of a really serious operation, and that nothing then remains in respect of that condition to curtail the length of an average life. In all my cases there has been perfect control over the urine after the operation.

Although the title of my subject implies the inference that I restrict this plan of treatment to confirmed and otherwise hopeless cases, this by no means represents my opinion. I have determined only to recommend what I have tried and found successful, but I think it logically follows that if the operation is successful in advanced cases, we may reasonably conjecture that it would be all the more successful if adopted earlier, as the advanced cases are undoubtedly the result of neglect in the earlier stages. So far I have been deterred from operating earlier by the reluctance of patients to undergo any operation until the intensity of their sufferings has compelled them to submit.

I further venture to claim that the advantages of this method have been extended to other conditions of the bladder. For

instance, in malignant growths with periodic attacks of hæmorrhage, the retention of a perineal opening generally renders the surgeon master of the situation, as he can at any moment place the patient in a condition of collapse, and by this means arrest the hæmorrhage.

From what I have stated, it may be gathered that, although what I advocate is only, perhaps, a small advance in the direction of what has been practiced before, nevertheless, small as it is, it is sufficient to secure advantages which have never been hitherto within the resource of surgery, as it affords freedom from pain and irritation, immunity from relapses, and an escape from the miseries of an incontinent bladder in cases of enlarged prostate.

In conclusion, I wish to emphasize the chief features of this treatment: First, that the operation is undertaken with the design to establish and permanently maintain a fistula, in the closest possible proximity to the bladder, but in front of the prostate. Secondly, that the fistula can be utilized at pleasure for the dual purpose of removing the contents of the bladder, and of minimizing the inconveniences attending regular, systematic, and thorough irrigation.

I am under the impression that the cases I have cited are the first on record where the bladder has been approached through the perineum with the deliberate intention of keeping the opening permanent for the purpose of relieving the pain and misery of an enlarged prostate.—*British Medical Journal*, April 13.

Dyspepsia as Reflected in the Mucous Membrane of the Upper Air-passages. By BEVERLEY ROBINSON, M. D.—It has long been a view to which I have clung with great tenacity, that affections of the upper air-passages can not be cured unless attention be directed to adjacent or remote organs, so that they may be made to exercise their functions properly. No amount of mere local treatment, whether it be medi-

cal or surgical, will produce this desired result unless the heart, lungs, liver and kidneys are all doing their share toward helping the general weal. Whilst all these organs are important to the preservation of a healthy upper air-tract, they all sink into relative littleness as compared with the immediate influence of the stomach. Let this organ perform its work well, and the nose, pharynx, and larynx are not apt to be great sufferers from catarrhal inflammation. Let the stomach be disturbed acutely or in a chronic manner by an attack of acute dyspepsia or habitual indigestion, and immediately there is evident morbid response on the part of the pituitary, pharyngeal, or laryngeal mucous membrane. I have seen children repeatedly who, whenever their stomach became upset by errors of diet or indiscretions of cake, candy, or soda-water, had febrile excitement accompanied by more or less marked pharyngeal inflammation. This pharyngeal inflammation is ordinarily one of two distinct types. Either there is a markedly red, swollen aspect, with sensations of dryness, soreness, and pain in deglutition, or there is less of these symptoms, while the tonsils on either side show a considerable number already of white exudations, situated over or near the mouths of the follicles, and which, so far as I have been able to observe, differ in no respect from similar deposits that indicate a contagious disorder with which we are all familiar. In many children, each time they are attacked with acute dyspepsia, gastric catarrh, or "biliousness," they also have within twenty-four or forty-eight hours subsequently an attack of this membranous amygdalitis. It shows itself sometimes indeed concomitantly with the evidences of disordered digestion, and again, as I have said, we may be obliged to wait a day or two longer before the throat deposits are visible. Seemingly in the latter cases there can be little doubt that the disturbance of the stomachal digestion was

the original factor in the development of the throat ailment. Now, this affection of the tonsils would not come under the heading, properly speaking, of the subject of our discussion were it not accompanied almost invariably with an extension of inflammation to the upper air-tract in one or other or both directions. Frequently the nasal passages become more or less occluded from swelling and infiltration of the turbinated bodies and the mucous membrane lining the naso-pharynx. Accompanying this condition there is a nasal intonation of voice, and when the tongue is depressed to look at the throat a mass of thick white or yellowish mucus fills up the interval between the pharyngeal wall and the margin of the soft palate. Immediately an effort of hawking takes place, so that the patient is enabled to expectorate the mass and afford himself relief. At times the pharyngeal wall is for a day or more covered with a continuous coating of viscid, sticky, adherent mucus. As this mucus drops down the pharyngeal wall some of it is prone to enter the larynx and produce a slight momentary sensation of suffocation or frequent harsh cough, until it is expelled by an effort of expectoration. Whenever, as will also occur, these attacks are accompanied by considerable hoarseness, it is the generally received impression that the child has in some unexplained manner taken cold. Now, although I believe that a not dissimilar state may occasionally occur from "catching cold," yet I am of the opinion that the digestive organs, and particularly the stomach, are, as a rule, directly responsible for these effects, always admitting that a check of perspiration, or sitting in a draught, or getting a wetting, may in a sensitive child produce acute indigestion, even though there has been no evident error in diet. To strengthen my interpretation of the cases referred to, I would lay emphasis on the fact that the best medication of a similar condition is active purgation and low

diet for several days. Local medication of the nose, fauces, pharynx, or larynx is of far less importance.

Having considered the effects of acute dyspepsia in children, I would direct your attention to chronic digestive disturbances. To locate precisely in small children the seat of their suffering is frequently difficult. This statement is nowhere truer than of the stomach and bowels. There are some children, frequently sons or daughters of poor parents, not rarely of well-to-do people, who have coated, flabby, indented tongues; habitual foul breath; yellowish conjunctivæ; thick, sallow-looking skin of face; small or capricious appetite; distended abdomen; confined or loose bowels. These same children are constantly having vomiting attacks, stomachal or abdominal pains, and are ordinarily listless, peevish, fretful, and ill disposed to play or be amused. Here, then, is a clear picture of dyspepsia, which might, of course, readily be enlarged or elaborated. How frequently in just such cases do we hear parents state that their child is unable to rest at night because it can not breathe through its nose; that, even when it goes finally to sleep, it is restless and uncomfortable, and awakens with a start, frightened and crying out! Such children are liable to croupy attacks, in which hoarseness and spasmodic dyspnoea are very pronounced. Now, if we examine the nose and throat, we are apt to find some of the following conditions: In the nose the turbinated bodies are swollen and pale-looking, and frequently on one or both sides almost touch the nasal septum in more or less extensive areas; often, indeed, there is no interval between these organs. The post-nasal space habitually contains a quantity of thick mucus, which the child can not detach by its own effort, but which spontaneously dislodges itself from time to time, and which, when it reaches the lower pharynx, is usually swallowed, thus helping much to increase the dyspepsia which

already exists. The pharynx, fauces, palate, tonsils, and larynx are all more or less pale-looking and relaxed. The uvula is apt to be elongated and somewhat infiltrated. The tonsils are sometimes considerably enlarged, but not in the majority of instances. Cough is a very frequent symptom. Occasionally it is a distressing, paroxysmal cough, caused by local irritation of the larynx from the presence of mucus, or by nerve irritation, or as a reflex from the elongated uvula tickling the base of the tongue or epiglottis. When we inquire into the efficient causation of such a condition, we are obliged to confess that great ignorance of or inattention to the most ordinary dietary requirements is the source from which so much trouble arises. It is interesting to observe in this connection how absolutely regardless many people are as to whether a child's bowels are moved every day regularly, as to the amount of sugar, or butter, or rich sauce a child may get at separate meals or at odd intervals during the twenty-four hours. And yet the great importance of proper care in these respects can not be a matter of reasonable doubt to any one who has closely observed the effects of the simplest remedial measures in restoring perfect equilibrium to the system. The remedial measure may not consist necessarily in doing something actively; it may merely be essential to eliminate or get rid of that which causes the outbreak of trouble.

Taking away an undue amount of sugar from the dietary of some children will enable them to pass restful nights when, previous to this exercise of care, they would have attacks of stridulous cough which would alarm a household. The free use of lime-water, in one instance I recall, broke up very rapidly spasmodic attacks of cough and hoarseness very distressing in character, accompanied by an eruption of urticaria on the face and neck. These attacks occurred in a little girl who for two years was unable to drink a glass of sim-

ple milk without causing such an attack. If she ate a small slice of bread with the milk, the attacks referred to did not occur.

I can only explain such an occurrence by supposing that the small amount of bread helped to divide the milk cure in such a way as to prevent stomachal dyspepsia.

In adults we are able to get, of course, clear descriptions in regard to digestive ailments if manifestly present, and to trace the connection more accurately between them and affections of the mucous membrane of the upper air-tract. In many cases it is difficult accurately to determine, however, which is the occasion of most distress—the dyspepsia on the one hand, or the catarrhal inflammation of the upper air-passages on the other. Not only is the statement true, so closely correlated are the two conditions, that when one is better the other improves, and if one grows worse the other immediately follows the same march, but it is also often evident that dyspepsia preceded for a long while, in a more or less pronounced manner, the advent of disordered function of the upper air-tract. This is not, however, always the case. No matter how closely we interrogate our patients at times, we can form no definite opinion as to which disease manifested itself at first. What I have said in regard to the effect of acute dyspepsia in children is only in part true, as a rule, of adults. Men and women are far less exposed to have the *follicular* form of amygdalitis accompanying the blocking up of the nose from pituitary thickening and catarrh of the naso-pharynx. Still, such cases do occasionally occur. Among dyspeptic adults there are several familiar types of reflected inflammatory or other disturbances of the mucous membrane of the upper air-passages. These depend much upon the character or underlying causes of the dyspepsia. In women, especially those who are pale, careworn victims of nervousness, palpitations, leucorrhœa, and menstrual derangements, we

shall, in my experience, often discover atrophic conditions present in the nose and throat. I am inclined to believe at present, mainly from analogy, that just as the glandular apparatus seems insufficient in the stomach to furnish a healthy and adequate amount of digestive fluids, so the pale, contracted, improperly nourished pituitary membrane, which is only an accompaniment here of gland atrophy, explains in some degree the presence of those hard, scaly, adherent, bad-smelling deposits which, under these circumstances, we are apt to notice in the nasal passages, upon the septum or turbinated bodies, or lodged high up in the naso-pharynx. * *

* *—*New York Medical Journal*, April 20, 1889.

The Tabetic Eye.—Before the Société de médecine de Paris, M. TROUSSEAU lately read an interesting paper upon this subject that appears in the *Union Médicale* for March 9, 1889. The ocular symptoms of tabes, he says, are important in exact proportion to a knowledge of their special characteristics and relations to the disease that causes them. Whether they serve to trace the malady or to confirm a doubtful diagnosis, they are equally valuable, and should receive the most careful study.

Fournier has noted eye troubles in thirty-four out of two hundred and twenty-four cases. This proportion is probably smaller than actually exists, for many patients present ocular phenomena perceptible only to the physician, and of which they themselves do not complain. These insidious manifestations are especially helpful in discovering the disease during its early stages. Certain conditions belonging to the pre-ataxic state have been set down to syphilis pure and simple, owing to ignorance concerning ataxia, and to the fact that so frequently an antecedent history of syphilis is given. According to Galezowski, in nine cases out of ten, tabetic affections of vision are due

to syphilis alone. Of thirty cases investigated by the author, twenty-five presented unmistakable evidences of this disease, two were doubtful, and in the three others the patients had never been inoculated.

The eye muscles, the iris, and the optic nerve are the tracts most apt to be affected, but they are not the only ones. In 1886 Pétrolacci, of Montpellier, wrote a thesis on ataxic lacrymation. Feré had under observation a patient in whom attacks of circumorbital pains of lightning-like character and unilateral lacrymation appeared and disappeared with equal suddenness, and in ataxic subjects disseminated circumorbital anæsthesia is of frequent occurrence. Berger has called attention to the diminished ocular tension during the paralytic stage.

Ophthalmic migraine, with its scotoma and hemianopsia, the author thinks may be allied to tabes, for he has observed two patients in whom frequent attacks of this sort accompanied the pretabetic period. One of the unfortunates retained this inconvenient symptom. As a general thing, not enough importance is attached to ophthalmic migraine as a precursory sign of ataxia.

The eye muscles are often paralyzed during the course of the disease, sometimes at the beginning and sometimes toward the end. This seems to have no clinical connection with optic atrophy. In other words, it is unreasonable to conclude from the presence of muscular paralysis that the patient is predisposed to optic atrophy. In six hundred cases of atrophy, Galezowski has encountered, before or during the course of profound ataxias, two hundred in which muscular paralysis existed. This simply illustrates a certain relative frequency, but can not be looked upon as bearing a very close relation. The lesions are of a different order. The prognosis is of a fatal nature in papillary atrophy, while muscular paralyses are curable. When, however,

such paralyzes are joined to pupillary disturbances, it is safe to affirm the probability of tabes. In the pre-ataxic stage, when the diagnosis is doubtful, the presence of these united signs is of chief importance. Ocular paralyzes vary in character according to the stage of the spinal-cord affection. At the onset they are for the most part simple forms of paresis (diplopia without strabismus), developing and disappearing readily enough, sometimes instantaneously and without treatment, and returning suddenly at times. They may affect one or several muscles at the same time or in succession. These are the peculiar phenomena formerly considered distinctive of syphilis. But they are certainly rare except in the syphilitic patient who is a candidate for ataxia.

The muscles that move the ball may be attacked, and also those of the lid, causing the slight narrowing of the palpebral fissure that Berger notes in ataxic subjects. The ptosis that exists in other cases has a similar origin, as well as the paralysis of the levators of both sides seen by Déjérine. It is impossible to fathom the cause of phenomena so *bizarre* in any brief survey of the subject. They may be due to irritation simply; to nuclear sclerosis; to sclerosis of the vertebral artery and its branches, as Schmeichler suggests; or to peripheral neuritis, according to Déjérine's theory; or, let us say with Brown-Sequard, considering the flitting character of these motor paralyzes, they have a cause as yet indefinite.

The pupil of the tabetic eye is a source of much valuable information. There may be single or double myosis of the pin-hole variety, rendering an examination of the fundus extremely difficult; or mydriasis may exist, most frequently on one side only. Sometimes there is paralysis of accommodation without mydriasis, in which case Galezowski has noticed circumorbital anæsthesia. In some cases light does not affect the pupil, but its reaction in accom-

modation is normal. In others, on the contrary, the Argyll-Robertson pupil in itself is a guide to a correct diagnosis. Berger calls attention to an elliptic deformity of the pupil. The tabetic eye is also subject to an affection of the gravest moment, to wit, atrophy of the papilla. Erb notes in it twelve out of a hundred cases; Mæli, in thirteen in a hundred; and Schmeichler finds it forty times in a hundred cases. Its chief characteristics are steady progress and the well-known appearance that the ophthalmoscope reveals. The grayish color of the papilla has been alleged as a pathognomonic sign of ataxia. Clinically, this fine distinction can not be admitted. It is not rare to come across ataxic papillæ that are very white. While the papilla is progressively losing its normal color—indeed, before there is any change in the tint—there is narrowing of the field of vision, which is preceded by a diminution of color perception according to the following order: green, red, blue. At the same time there are lacunæ and scotomata in the visual field. Abadie finds a characteristic picture of ataxic atrophy. Charcot points out the fact that sclerosis of the optic nerve may precede typical ataxic phenomena and betoken them a long time in advance. Whatever the period of its appearance, it condemns the unhappy victim to a certain and total blindness that can not be delayed or relieved.—*New York Medical Journal*. April 20, 1889.

The Radical Cure of Inguinal Hernia.—

At a meeting of the New York Academy of Medicine last February, Dr. CHARLES MCBURNEY read a paper in which he reported thirty-six operations for the radical cure of hernia by a method that is essentially his own; of these cases only one relapsed, and that was due to the faulty ligation of the sac, and one patient died eight days after the operation, having developed alcoholic delirium.

The operation is essentially his, because Dr. McBurney stated that subsequent to his conception of the operation he learned that Otto Riesel (*Deutsche Med. Woch., Berlin, 1877, pp. 449, 467*) had advised similar technique to that that he employed. The paper is published, with illustrations, in the *New York Medical Record* of March 23, and from it we take the following details.

Certain fundamental principles are first insisted upon: "In the formation of inguinal hernia the first predisposing and inviting cause is the slight pouch or pocket formed by the peritoneum as it is reflected over the upper part of the spermatic cord in the male, and over the round ligament in the female, at the point where this cord enters the internal abdominal ring. The loose connective tissue which accompanies the cord, and fills the inguinal canal, forms no substantial backing to the peritoneum at this point, hence a protrusion which is at first a tiny pocket readily grows under the great and constant pressure from within to a fully developed inguinal hernia."

Assuming the correctness of the foregoing, it is necessary to remove the predisposing cause—the pouching opposite the internal ring,—and support the peritoneum at this point, in order to radically cure the hernia.

To attain these ends the operation is as follows: The patient is thoroughly cleansed, the pubes and scrotum shaved, and the bowels evacuated—if possible. A free incision is made in the skin, commencing external to the internal ring, and following the line of the canal to the scrotum. The subcutaneous tissues are incised until the sac is exposed. A blade of a blunt scissors is introduced under the edge of the external ring, and the anterior wall is slit completely up—beyond the internal ring. With fingers, or handle of the scalpel, the sac is freed from all its coverings, separated from the spermatic cord, and lifted up. The wound, and the hands of the

operator are now thoroughly cleansed with some antiseptic solution, the sac opened at its distal extremity, and if intestinal contents are present they must be reduced. If omentum is present, it is securely tied with catgut, and cut off, leaving a generous stump in order that there may be no slipping of the ligature. The stump is returned to the abdominal cavity, after all adhesions are broken up.

The sac is then held up vertically from the internal ring, the operator inserting a finger through the neck into the peritoneal cavity, thus guarding absolutely against the presence of intestine or omentum. An assistant then places a ligature of strong gut, or silk, about the neck of the sac at the highest point, slight traction on the sac being made by the surgeon, and his finger being withdrawn as the ligature tightens on it. The free portion of the sac is then incised, leaving a pedicle long enough to prevent slipping of the ligature. In congenital hernia it has been necessary to sew the neck carefully and smoothly.

From four to eight silk sutures are now passed through the tissues forming the upper wall of the wound, that is, the conjoined tendon, the aponeurosis of the external oblique, including the inner pillar of the external ring, and the skin. The latter is deeply invested while each stitch is tied tightly. In the lower wall, the aponeurosis of the external oblique and the outer pillar of the ring, the fascia, and the skin, are similarly sutured, the skin being inverted. Two heavy tension sutures are passed through the skin, entering and emerging about an inch from the edges of the wound, and fastened over pledgets of iodoform gauze to prevent ulceration of the skin. The wound is irrigated, dusted with iodoform, and iodoform gauze firmly packed in the canal, thus preventing œdema of the cord and consequent interference with granulation.

The scrotal or labial wound is sewed up simply, without packing. The wound is

covered with antiseptic gauze, and the abdomen and thighs firmly bandaged. A piece of rubber tissue, passed over the penis and pinned to the bandages will prevent soiling by urine. In children plaster-of-paris dressing may be applied, and in girls the bandage may be shellacked.

In ten days the dressings may be changed, but if the operation has been aseptic there will be no suppuration and irrigation of the wound will not then be necessary. Exuberant granulations may be scraped with a sharp spoon or touched with nitrate of silver. The time for healing, with the formation of a dense cicatrix, is five to six weeks. When the patient sits up, no truss nor support is to be used; as the author says, if these were required he "should look upon the operation as very far from deserving the name of 'radical cure.'"

In the discussion that followed the reading of the paper several of the more prominent New York surgeons spoke favorably of the operation, having employed it as a more desirable method than any usually resorted to.

The Charity Institutions of Paris—Nursing Infants with Asses' Milk.—In recent years, in France, conscientious efforts have been made to ascertain the principal causes of the loss of population, and it has been demonstrated by numerous facts that one of these causes consists in the physical degeneration induced by deficiency of alimentation in infancy; and the most eminent physicians of Paris, and the Director of Public Assistance, have endeavored to modify and improve the system of nutrition in the public charitable institutions, providing for recently born children lactation adequate to the necessities of the temperament and constitution.

In the Hospital for Infants' Diseases, situated in Sabres Street, there exists a section for rickety boys and girls, whose miserable aspect produces an impression of

pain upon the mind—unfortunate beings who have inherited the organic vices of their parents, and who suffer from anaemia's cruel tortures.

The administration of the hospital is arranged in two separated pavilions, where there is much ventilation, with large windows that look out upon a garden, and whose walls have double rows of willow cradles perfectly equipped. The newly born receive here the personal care of the establishment, beginning with being weighed in the balance the same day they make their appearance, the operation being frequently repeated almost every month in order to determine with exactness the development of the child. The little one is subjected to an especially nutritious diet of the most tonic kind, if it had been previously fed from a refractory goat liable to convey contagious germs, it having been found by experiment that the milk of this animal, although possessing nutritive principles of the most salutary kind, presents the inconvenience of communicating by absorption the effects of those nervous accidents to which the goat is subject.

The public charities of Paris, advised by the wise doctors of medicine, have substituted for the milk of goats that of the ass, and have installed an ample yard near the pavilion of the rickety and scrofulous children, which is only separated by a short covered passage-way. Nothing is more picturesque than the spectacle of the lactation of the babies in this inclosure every morning. * * * *

The nurses, dressed in dark gowns with white caps and aprons, each carrying a child on the right arm and a little seat in the left hand, present themselves in exact turn to the women who have charge of the animals, and they hold the child, applying its lips to the teats of the docile animal. The children suck with avidity the liquid nutriment, which is fresh and of agreeable taste.

The Administration of Public Assistance of Paris has calculated that one young ass is able to lactate abundantly for a space of nine or ten months, and when this period has passed they are sold and replaced by others. It is well known that the milk of asses, by its vivifying qualities and its nutritious principles, assimilates in a great degree the milk of the nurse, and these disinherited and sick children, enjoying its beneficial effects by its permanent and methodical use, are restored little by little to health and vigor.—*La Ilustracion Espanola*.—*The Sanitarian*.

The Nursing Question.—A remarkable degree of public attention has been recently concentrated upon the position of women who follow the profession of nursing. The correspondence of a lengthy and for the most part one-sided and inaccurate description which appeared upon the subject of "lady nurses" in the columns of a lay contemporary has just been followed by a virulent article, describing nurses as white slaves, in the columns of an emotional evening publication. It is not, of course, essential to pause and consider whether the article in question was the production of a professional man or woman; we may, however, assume that, whoever the author may be—man or woman—there is evidence that the facts have been obtained second-hand, and are in many important particulars exaggerated and distorted. A foolish comparison is drawn between the "white slaves" who are required to be on duty in the wards attending to the patients and the medical officers whose duties enable them to enjoy themselves at lawn tennis after their visits to the wards. In this comparison we fail to see where the hardship exists. It is essential to bear in mind that women voluntarily take office as nurses, and have plenty of opportunity of testing their physical endurance for the work before they permanently engage themselves. For their services they are well paid, and have in

addition board, lodging and uniform. Except for ladies of good education and birth, who in the majority of cases, merely for private family reasons, separate themselves from their homes and embark upon a nursing career, these are advantages for the most part which are far beyond the class of persons who seek to become nurses. The number of women of good education who are now applying for the vacancies of probationers at the various nursing training establishments in the metropolis is quite unprecedented; the supply is infinitely greater than the demand in this particular sphere of woman's work, despite the hardships which are supposed to environ it. The latest development in this regard is the suggested formation of a trade-union of nurses, and a gentleman has, with this object in view, even placed himself in communication with the "overworked and underpaid *employés* of nursing institutes." Such is the wording of the announcement which he has made. We shall probably hear next of a trade-union of hospital porters, established for the purpose of compelling the various hospital authorities to supply the porters with beer to be drunk on the premises during the hours of duty.—*The Medical Press*.

The Etiology of Tetanus.—Tetanus is now generally recognized as a disease due to the ravages of a specific microbe, and M. Verneuil has pointed out that the soil contaminated by the dejections of tetanic animals, preserves its virulence for long periods of time. In Havana, where the disease is rife, it has been remarked that it occurs in the vast majority of cases (132 out of 162) as a consequence of wounds of the lower extremities, and generally wherever the wound is brought into contact with the soil, as in crushed feet, comminuted fractures in which the bones are driven into the ground, and where the injuries are inflicted by agricultural implements, or dressed with earth—a common practice in rural

districts. A series of experiments carried out with soil from farms where outbreaks of the disease have occurred, have afforded striking proof of the possibility of infection from this source. These data are exceptionally valuable, inasmuch as they throw a good deal of light on a disease as to the nature and etiology of which we were, until quite recently, profoundly ignorant.—*The Medical Press.*

A "Cremator" Cremated.—By the New York press telegraphic reports of March 27th, 1889, we learn that the crematory erected by Chicago for the burning of the city's garbage was burned to the ground by an incendiary fire the day before; and that citizens in the neighborhood have been indignantly remonstrating against its use for some time, alleging that it created an unbearable stench.

This is understood to be the "Distillery Crematory"—the Mann patent—which was so enthusiastically urged by its patrons at the Milwaukee meeting of the American Public Health Association in November last. As at that time in operation in Buffalo, it was said that the entire running expenses could be defrayed by the lubricating oils extracted from, and the residual manure of, the garbage "cremated;" and that the process was entirely free from offensive odors. The one at Buffalo has since been reported a nuisance, and that at Chicago as above. It is to be hoped that rendering apparatus, such as this appears to be, will not detract from or prove to be an obstacle in the way of the growing interest in garbage cremation, and the adoption of such cremators as will effect the purpose without nuisance.—*The Sanitarian.*

Medicine in Japan.—The Japanese are progressing in the matter of medical institutions. It is announced that in the country at the present moment there are thirty-one schools of medicine, four schools of pharmacy, and two schools of veterinary

surgery. The University of Tokio, moreover, contains 1,218 students. It would be interesting to know whether the Japanese, like certain European countries, admit ladies to the classes, and if there is to be found any Japanese lady practicing in her own country. Hazarding a guess, we should feel doubtful that the Japanese have, at all events as yet, in imitation of the custom in England and other nations, placed the medical profession within the reach of their wives and daughters. In Japan European customs are often adopted, and are generally most popular, but we have no means of knowing whether lady doctors have established a *raison d'être* in the country.—*The Medical Press.*

Dried Potatoes.—In the *Voenno-Sanitar-noie Delo*, Dr. Jakov M. Shmulevitch emphatically draws attention to dried potatoes as an important food article, possessing some very valuable advantages in comparison with the vegetable in a fresh state. The advantages claimed for the article are these: (1) While fresh potatoes easily rot, blacken, and sprout, dried potatoes, when kept duly protected from moisture, remain in the best condition for a very long time; and (2), being by far lighter and less bulky than fresh potatoes, are by far more convenient for preservation and transportation, which point has a great practical importance, especially in time of war. To be fit for culinary use, the article requires a preliminary maceration in water for ten or twelve hours.—*The Sanitarian.*

Overcrowding of the Medical Profession in Germany.—According to a foreign contemporary, the overcrowding of the profession in Germany has given rise to some apprehension on the part of the authorities. Not only does the Government refuse to open fresh schools of medicine, but quite recently the Landtag refused the subsidies hitherto accorded to the professional chairs at Halle and Marburg.—*The Medical Press.*

EDITORIAL.

**PULMONARY TUBERCULOSIS, AND ITS
TREATMENT BY HOT AIR.**

A method, proposed by Weigert, of treating tuberculosis by the inhalation of hot air has been attracting some attention lately. The plan is founded on the theory that tubercle-bacilli cannot live in a high temperature easily borne by man. "Even at a temperature of 38.5° C. [101.3° F.] they are very much weakened, and at a temperature greater than 42° C. [107.6° F.] they are killed." Man, however, can inhale, for a considerable time without injury, air as hot as 250° to 300° C. [482° to 572° F.] This heated air fills the lungs and, it is claimed, will raise the tissues to such a point as to kill the bacilli. The inhaling apparatus is a chamber heated by a lamp; two tubes pass off from the chamber, one from the top and the other from the bottom. The temperature is regulated by a thermometer. The patient takes the upper tube into the mouth and makes slow and full respirations, taking in as little air outside the tube as possible. The sittings are for one or two hours once every day.

The results claimed are increased expansion of the chest, in one case from 89 cm. to 95½ cm. within a few weeks. Dullness is cleared up, difficulty of breathing is diminished or disappears; the weight of the body is increased and the bacilli in the sputum diminish in number and show signs of a less vigorous growth.

The treatment has not been used long enough to determine whether or not this improvement in the patient is permanent.

The plan looks plausible enough at first to tempt to a careful trial. Still there are some reasons that lead us to doubt whether the hopes of the advocates of the treatment will ever be realized. As a general thing pathogenic bacteria in the tissues are hard to kill. Surgeons have learned by much sad experience that no amount of antiseptics will do away with the harm from dirty

instruments or dirty hands. Obstetricians have learned to keep even clean hands off as much as possible. A suppurating wound cannot be cleaned by antiseptics alone—drainage is required, and that acts largely mechanically by carrying off the septic germs. Experience with all sorts of bacterial diseases has demonstrated that it is much better and easier to keep the germs out than to get them out after they have once got in. Tubercle-bacilli are no exception to the rule that bacteria in the tissues are hard to kill, as all know who have treated tuberculous ulcerations.

In tuberculosis the bacilli are imbedded in the lung tissue and in order to kill them this tissue must be heated to the fatal point of the bacteria and kept at this point for some little time. It is doubtful whether this occurs as the result of the treatment. It must be remembered that the air in the deepest inspiration penetrates only to the larger bronchial tubes. The mixture of this air with the residual air takes place slowly by the action of the cilia which line the tubes. While this is taking place the blood is circulating in great volume and with great speed in the lungs, all the blood in the body going through them in about half a minute. This great volume of blood must exert a powerful influence in keeping the temperature of the lungs the same as that of other parts of the body. It would seem that before any great elevation of temperature in the lungs could take place, all the blood must be heated nearly or quite as high as the lung tissue, consequently the temperature of the whole body must be raised. This does not occur. Those who have tried the treatment say that from .1° to .3° C. [.18° to .54° F.] higher than usual is all the elevation that the most careful examination ever shows. Such a rise would of course do the bacilli no harm.

Another thing should be borne in mind: In all ordinary cases of tuberculosis we have to do not with the tubercle-bacilli alone.

Early in the disease the tubercles soften and form cavities. These cavities in a soft and highly vascular tissue are filled with putrid pus which can not be drained off, and is constantly spreading over other portions of the lung tissue. This is absorbed, and causes more or less septic poisoning. Many if not the most of the worst symptoms of tuberculosis come from this secondary infection. The germs causing this putrefaction would be rather stimulated than injured by a high temperature.

Even if the treatment were to destroy the tubercle-bacilli, which we doubt, there would still remain the other infection, and the patient would be little if any better off than before.

We fear, therefore, that the improvement in the patients is only temporary; due, perhaps, to the practice of deep inspiration; and that the hopes of the advocates of the treatment are destined to disappointment.

NEW METHODS OF TREATING LOCOMOTOR ATAXIA.

Dr. Stembo, in a late number of the *Berliner klinische Wochenschrift*, has an interesting paper on the causation and treatment of locomotor ataxia. He is of the opinion, now so rapidly gaining ground, that a large majority of these cases have a syphilitic history. Among thirty-nine cases treated by him, twenty-four [61.6 per cent.] have had a syphilitic history of from eight to twenty-four years standing. Many of these cases had no other syphilitic symptom. One of his cases shows the difficulty which may occur in discovering syphilis. The patient denied ever having had the disease, and showed no traces of syphilis, but Dr. Stembo accidentally discovered that ten years before the man had been for some time a hospital patient under syphilitic treatment.

Notwithstanding his belief in the influence of syphilis in causing locomotor ataxia, he has never found any benefit

from antisyphilitic treatment, where other symptoms of syphilis did not exist.

Like most other physicians, he has gone the rounds of the materia medica in the treatment of locomotor ataxia with little benefit. ELECTRICITY alone has been of use. He has used this agent in the form of the constant current—the induced current—and frictional electricity. Each one of these methods had a good influence, but acted in a somewhat different way from the others.

Frictional electricity produced the quickest results, especially in regard to sensibility and coördination; the constant current produced more lasting results; the induced current was midway between the other two. In order to secure the best results he has of late been using a combination of these as follows:

I. Constant and induced current after one another.

The anode, about seventy square centimeters in area, is attached somewhat sideways on the neck, by a band. The cathode, a little smaller, is then applied "*stationsweise*" along the opposite side of the spinal column. The electrodes are then changed to opposite sides and the current applied in the same way as before. Three "*stations*" are used on each side, and for each station half a minute is allowed. The strength of the current is from 1 to 1½ milliamperes.

He then attaches the neck electrode to the sternum and treats the back with the anode, especially the painful points or the place of the girdle feeling.

The anode is then attached to the electrode on the sternum and the other pole to a brush of forty square centimeters, and an induction current is applied. The current should never cause more than a slight tingling sensation. The brush is applied to the back, on both sides of the spinous processes, from above downwards, and is allowed to rest ten to fifteen seconds in a place.

II. Constant and induced current together.

The large electrode is fastened to the neck as before and connected with the anode of a galvano-faradic current, while the cathode, connected with the brush, is passed along the back as before.

The strength of the constant current is 1-1½ milliamperes for the faradic 90 mm. R. A. of a normal induction apparatus, and for the same length of time.

In using static electricity the patient is placed upon an insulated table which is connected with the positive pole. The negative pole is connected with a common ball electrode and applied along the spine and to the painful places. In the beginning, the length of the spark must be very small; if the patient is sensitive the positive pole may be led to the earth.

The writer gives the histories of three cases as samples. In all these cases the symptoms were arrested by the treatment.

He drops the caution that care and considerable special knowledge in the use of the apparatus are needed in applying this treatment successfully.

In this connection it may be well to notice that Dr. Joseph Schreiber is authority for the statement [*Berliner klin. Wochenschrift*; 1888; No. 52.] that Dr. Freund, Docent in Vienna, has tried the Mitchell treatment—rest in bed, nutritious diet and massage—together with electricity, in a case of mild tabes. In addition to the ordinary diet, 1 to 1½ litres of milk were used every day.

The method of using the electricity is not stated.

The patient improved for a time, but the trouble recurred with all its original force and steadily grew worse.

The SUSPENSION TREATMENT in this disease, first described by Motchowsky, but brought prominently before the profession by Professor Charcot, last winter, has been tried by Dr. Morton, as reported in

the *New York Medical Record*. He uses a Sayre suspension apparatus. When the patients are able to use their hands he uses the head straps alone, allowing the patients to pull upon the rope with their hands raised high above the head. If strong enough, they may make the suspension alone; otherwise they are assisted.

When they cannot use their hands the arm-straps are used, the weight being divided equally between the head and arms. A convenient way in this last class of patients is to arrange the apparatus while the patient is seated in a chair. When all is ready, an attendant raises him to his feet whilst another pulls upon the rope.

He begins with a suspension of from one to two minutes, every second day, increasing the time to five or seven minutes. One suspension every second day is enough. The patients are raised so that the balls of the feet just touch the floor. The toes should not leave the floor, at least in self suspension. In helpless patients, it is a good plan to raise the arms occasionally so as to bring more weight upon the head.

Dr. Morton has tried the treatment in six cases, using over two hundred suspensions. So far, every case has improved under the treatment. The relief is almost immediate. He has never had any unpleasant results except in one case, when a patient "had a severe cramp like a 'crick' in the back of the neck. It lasted about a minute and soon wore off. The back strap of the apparatus against the neck probably pressed in upon the muscles already in a state of abnormal irritability. It should bear squarely upon the occiput."

Dr. Morton is hopeful as to the value of this treatment and thinks that "we shall be obliged to admit that the sum total of improvement and cure, be it temporary or permanent, is far in excess of that attainable by any previous means, and as such must be regarded as the most signal advance yet made in the treatment of this hitherto intractable disease."

THE ILLINOIS STATE BOARD OF HEALTH.

The lower house of the State Legislature has apparently developed an amount of opposition to the State Board of Health which seriously threatens the existence of that body. It proposes to make no appropriation for the current expenses of the Board, and to repeal that section (section 11) of the Medical Practice Act which compels itinerant vendors of medicines to procure a license from the State Board of Health.

Such action on the part of the House of Representatives can scarcely be the result of careful consideration of the interests of the State, and is, on sanitary grounds if no other, very much to be regretted. The work of the Board is necessarily of such a nature that personal antagonisms inevitably arise, and there may also be sincere differences of opinion in regard to its methods of work, and in regard to the value to the State of the results which it has accomplished. But with all due consideration it must be admitted that the medical profession is, upon these points, better fitted and more competent to judge than the Legislature is, and the weight of opinion in the medical profession of the State is strongly in favor of the retention of a State Board of Health. Among educated physicians and sanitarians who have given careful attention to the subject, Boards of Health are considered necessities in civilized communities. This expression of opinion is so far entirely independent of the question of continuing the existence of the Illinois State Board of Health as now constituted. We wish not to be misunderstood when we say, in this connection, that we regard the work done by this Board as of great value to the State.

If the Legislature is not satisfied with the work of the Board, which is its servant and creature, it ought to specify to what it objects and give corresponding orders. But in the name of fairplay and straightforward dealing, and in the sanitary inter-

ests of the State, let it not resort to the ambiguous plan of making the law a dead letter by refusal to appropriate the money necessary for its execution. Amend it or even repeal it if best or necessary, but do not render it inoperative by stealth.

A discussion of the advisability of the repeal of Section 11 of the Medical Practice Act is intentionally avoided in this connection, but an earnest appeal is made to the Legislature not to allow their disapproval of one or more sections of the act, or of the officers appointed for its execution, to be made the occasion for hasty and ill-considered destruction of an agency which is a sanitary necessity for the protection of the people, but not for the medical profession which needs no legal enactments for its protection, and which should not have any.

SOCIETY REPORTS.**ALLEGHENY COUNTY MEDICAL SOCIETY.**

Special Meeting, March 19.

DR. W. F. KNOX, M.D., PRESIDENT, IN THE CHAIR.

LAPAROTOMY FOR EXTRA-UTERINE PREGNANCY.

DR. X. O. WEBER: At the November meeting of this Society I reported a case of extra-uterine pregnancy in which I had performed abdominal section with a successful result. To-day I present the specimen of my second case of tubal pregnancy, removed by laparotomy, on February 14th, of this year.

The history of this case is, briefly, as follows:

Mrs. M., 27 years of age, married, two children, the youngest 16 months old, has been suffering with periodical attacks of severe abdominal pains for almost a year, for which she several times required medical treatment. During the five or six weeks preceding the operation, these attacks increased in frequency and severity, making her unfit to do her ordinary household duties. Walking almost always produced a great deal of suffering. On January 26

of this year I was consulted for one of these attacks of pain, which was referred to the pelvic region, principally the left side. Making a vaginal examination, I found the uterus enlarged to the size almost of a two months' pregnancy and to the left of this, in the region of the left tube, a soft, extremely tender mass, which was slightly movable. A careful bimanual examination could not be made on account of the very great sensitiveness of these parts. She had menstruated regularly every four weeks during the last eight or nine months, and was at this time still nursing her baby. At the two subsequent examinations I found no change in her condition, except, perhaps, that this tumor was slightly larger than before. The diagnosis was not quite clear, but I was inclined to the opinion that it was either a hydrosalpinx, or a pyosalpinx, more probably the latter. As her suffering at times had almost become unbearable, I advised laparotomy, to which she readily consented, but the operation was deferred until after her next menstrual period, which was now very close at hand. Menses lasted five days, and presented nothing unusual. In the afternoon of the 13th of February, the day preceding the operation, she came to my office in a carriage, from her home, for the purpose of going to Mercy Hospital. On examination I found her condition unchanged; the mass, however, seemed now decidedly larger. The riding on the rough country road from her home did not seem to have caused her as much suffering as expected, and she was cheerful, and feeling better than for several days previously. But on her way to the hospital the pains returned in unusual severity, and she arrived there faint and nearly collapsed. Several hypodermic injections of morphia made her more comfortable, but she continued very sick and sore all night. On my morning visit before the operation, she looked very pale, and was very feeble, still suffering considerable pain. Vaginal examination was not made.

On opening the peritoneal cavity dark blood escaped from the wound, and the abdomen was found containing a considerable quantity of blood, liquid and coagulated. In reaching down for the sac, on the left of the uterus, I felt a small rent in it, probably one-half inch long, which, however, in trying to bring it to the surface, was enlarged, so that all its contents escaped into the abdominal cavity. The bleeding was now very free, the blood being bright red, and easily distinguishable from the old dark blood already contained in the abdomen. The sac was now tied off, and the clots contained within the pelvic cavity turned out. After washing out the abdomen with hot distilled water, it was closed, leaving, however, a glass drainage tube. Blood continued to discharge from this tube for three days, when it was removed.

The patient rallied very nicely from the operation, and made an uninterrupted recovery, her temperature and pulse remaining perfectly normal after the fourth day. She left the hospital on the 21st day, and is now in good health.

Rupture of the tube must have taken place on her way to or at the hospital, probably as a consequence of the jolting of the carriage. This evidently was the cause of the faintness and slight collapse after her arrival at the hospital the evening before the operation.

Comparing the histories of the two cases operated on by me, we find the first case an almost typical one of ectopic pregnancy, and one of comparatively easy diagnosis to one at all familiar with this interesting anomaly, while the second case is as atypical as possible, in which I claim a diagnosis to have been entirely impossible, for there was not the slightest reason to even suspect a pregnancy, as the patient had been menstruating regularly, her last catamenial period terminating just a few days before the operation, and she was still nursing her baby at the time she came under observation.

This case illustrates again the great difficulties in diagnosing extra-uterine pregnancy, and I can not agree with Hanks, when he states that the diagnosis can be made in at least 95 per cent of cases. The case also demonstrates that this interesting affection is by no means such a very rare condition as some seem to suppose, as this is the second case occurring in my own practice within the period of four months. That this was a case of tubal pregnancy there could be very little doubt, but in order to be perfectly certain, I sent the specimen to Dr. Wm. H. Welch, of Johns Hopkins University, Baltimore, for examination, and he verified the diagnosis. The specimen, he states, consists of an ovary, part of a Fallopian tube, the intervening broad ligament, the foetal membranes and a placenta with umbilical cord.

DR. DUFF: Two months ago I reported a case of rheumatism, or rather a case of rheumatism associated with eruptions around the joints; at the time I did not understand the case, and could not say what the outcome would be. The rash was first papillary, then vesicular, following up in the order of the joints attacked. A few days after, I found several large blebs over the shoulder, just such as we have arise after the application of cantharides plaster. As they dried up, the submaxillary glands and cervical glands began to enlarge and continue until suppuration occurred, and discharged large amounts of pus. After suppuration occurred, the young lady improved rapidly. I am still at a loss to account for the condition, and promised that I would give the result of the case.

DR. PAINTER reported a case of

CONGENITAL MALFORMATION OF THE SOFT PALATE.

Mrs. F., aged 40, a widow eight years, consulted me on account of hoarseness following a cold. Inspecting the pharynx, I found an unique anatomical relation existing between the upper part of the pharynx and the soft palate, of which the

patient was ignorant. The free border of the soft palate and the palato-pharyngeus muscle on either side are carried backward and attached to the posterior wall of the pharynx, forming a diaphragm between the superior and middle divisions of the pharynx. In this dividing membrane there are two somewhat circular openings—one one-half inch, and the other one-eighth inch in diameter. These openings are in the median line. The uvula can not be distinguished. The patient can give no reason for this marked departure from the normal construction, and was ignorant of any irregularity till I asked her to permit a demonstration of her throat to this Society. She supports a family of five by washing. She frequently has a cold in the head, but experiences no difficulty in clearing the nose. She has never had noises in the ears and hears well. The sense of smell and taste is unimpaired, and her voice, save an occasional hoarseness, has never changed. The voice might be described as muffled. Her sleep is undisturbed. At least two of her children have throats normal in construction. She has had typhoid fever, and believes she had diphtheria when a child. As I demonstrate the case, it will be observed that she is well developed generally and in good health. In the absence of any ulcerative process, I conclude the case to be one of congenital malformation. The case has two interesting points: First, this malformation is uncommon; and secondly, the absence of symptoms such as one would think should follow such abnormality.

DR. HUSELTON reported a case of

COMPOUND PUNCTURED FRACTURE OF THE SKULL, produced by the calk of a horse's shoe. John T., aged 38, a farmer, was brought into the Allegheny General Hospital on the evening of January 26th, with a history of "fractured skull." He was conscious, talked rationally, pupils equal, no paralysis, and a full, slow pulse. The history, as given by himself, is as follows: He

was riding in a "buckboard," leading a spirited horse by means of an ordinary halter. The horse, becoming frightened at a passing railway train, jumped upon the "buckboard," knocking the patient to the ground. He tried to rise, still holding to the strap, when the horse reared and came down, his hoof striking the patient on the head, rendering him unconscious. He did not regain consciousness for about one hour after the injury, when he walked into the hospital supported by a friend.

An examination revealed a depressed, punctured fracture of the skull, situated in the frontal bone, two inches above the right eye. The fracture was shaped like, and about the size of a large almond, and very much depressed. A sero-sanguinolent fluid, supposed to be subarachnoid, escaped from the wound, but we were unable to find an opening in the dura mater. This fluid flowed freely as long as the head was resting on the occiput, but on turning it to either side it ceased. I trephined, removing the button from the lower portion of the wound. A number of fragments, principally from the inner table, were removed and the depressed bone elevated into position. There was no hemorrhage from the interior. The wound was flushed with a solution of bichloride of mercury (1:4000). A few strands of silk were placed in the opening and brought out at the lower portion of the wound for drainage. The edges were brought together by silk sutures, and the operation completed by an antiseptic dressing. On the morning of the 27th his temperature was 100.4° , but gradually and continuously dropped to 98.4° on the 29th, and remained normal from this time on. The dressings were removed on the 30th, four days after the operation. The wound had closed by primary union, and without a drop of pus or discharge of any character. The stitches and silk for drainage were removed on this occasion, and the head was redressed, observing the same antiseptic precautions

as at first. These dressings were removed on February 4th; and as every part of the original injury was healed, an ordinary nightcap bandage was applied and the patient was permitted to get up on the next day, February 5th.

The case progressed without an untoward symptom of any kind. The patient was anxious to go home on the tenth day after the operation, but was kept in the hospital as a precautionary measure until February 15th, when he was discharged cured, and the opening in the skull was apparently being rapidly closed by a bony deposit. His treatment was practically nil. The diet was liquid for the first few days. A mercurial at the outset was all he had in the way of medication.

DR. BUCHANAN: I would like to say a few words on the subject of trephining. I think that Dr. Huselton had very distinct indications for his operation and it certainly was very successful. I think there are one or two points on the subject of trephining that may be dwelt on. The principal one is that the indications for trephining have entirely changed in the last few years. Formerly, there was a very great difference made between simple and compound fractures. Compound fractures were recommended to be trephined that would not have been considered proper subjects for trephining had they been simple. The presence of a simple depressed fracture, if the depression is slight, it is impossible to make out. A case of depressed fracture occurred in my practice a week ago, in which it would have been impossible for any one to make out the depression by external examination. On the following evening, when symptoms of compression came on, I opened the scalp and found the depression, removed a button of bone, elevated it, removed a clot of blood from beneath the bone, and put on a dressing. The patient afterward had no elevation of temperature, commenced to improve immediately, and is now practically well.

The second point that I would call attention to is that the secondary results of depressed fractures are very much better appreciated now than heretofore. The deficiencies in intellect and epilepsies justify more frequent resort to the trephine and elevator in simple fractures of the skull. A case may recover and pass outside of the surgeon's sight, but still be a bad result: six months, a year, or several years after, there may be a chronic inflammation of the membranes of the brain or some damage done to the brain by plastic effusion, which will result in epilepsy or other troubles. I would therefore think that Dr. Huselton, even if there had been no compound nature in this fracture, would have been perfectly justified in elevating it, and I would go even so far as to say that when a fracture of the skull is suspected, if there is even a suspicion of depression, an exploratory operation through the scalp should be undertaken, because if there is no depression, such an operation would not hurt the patient a particle, and if there is a depression, it is exceedingly important to know it and act accordingly.

DR. MUNN: In connection with Dr. Buchanan's remarks on trephining depressed fractures, I will take the opportunity to relate a case which I met in my practice a year ago in April. A man was thrown out of a wagon by a runaway horse, and on being picked up, a depressed fracture was discovered on the upper posterior corner of the right parietal bone. He was taken to his home and there the propriety of an operation was spoken of but it was declined by the friends of the patient. He passed out of my hands, went under the care of a homœopathic physician and eventually recovered after remaining unconscious for seven days; he had had hemorrhage from the nose and the ear. Now, after the lapse of eleven months, he presents a decidedly marked depression in the region of the injury, has double vision, slight paralysis of the right arm, slight paralysis of the

right leg, has some aphasia and a slight paralysis of the left side of the trunk. I think the case to-day presents every indication for operation, but the operation was not performed at the time it should have been. Since the injury, he has had two epileptic seizures, nothing of the kind ever having occurred to him before.

DR. HUSELTON: I endorse everything that has been said by Dr. Buchanan and Dr. Munn. I would also add, I think we are too apt to overlook the importance of a fracture of the skull; under modern antiseptic treatment, I think trephining a comparatively safe operation and in every case I think that where there is reason to suspect a depressed fracture of the skull, the trephine is a proper precautionary measure to be resorted to.

DR. W. P. MUNN presented a specimen, obtained from a cadaver of unknown history, of

ENTIRE ABSENCE OF THE INNOMINATE ARTERY.

At its place of origin the two common carotids arise together, then the left subclavian is given off, and last arises the right subclavian, which passes towards the right, behind the other three vessels.

DR. BUCHANAN: I have a former patient present whom I wish to exhibit. His case I reported to the Society three or four months since. He is a man whose patella I wired. I have not before been able to present him to the Society; I wished to present him at that time, but, as I explained, he got out of my reach. I met him on the street some time ago and found that he had a very good result, and I thought I would show him to the Society. He was away from his laboring work just eight weeks.

(Patient exhibited.) You will observe that there is no separation whatever to be discovered between the fragments, and the joint movements are perfect. The limb is, to all appearances, as good as its mate.

DR. MURDOCH: Dr. Buchanan is to be

congratulated on the result of this case. So far as can be told by an examination of this man's leg, the union is perfect; there seems to be a bony union between the fragments. I say seems to be, because I do not believe it is so; I very much doubt if bony union ever takes place in a fracture of the patella, owing to the fact that many specimens have been thought to be bony, but when examined after death and the bones subjected to a process of boiling, it has been found the union was only fibrous after all. But if it is fibrous, it is just as good as if it were bony and just as useful, because there is no separation of the fragments, and by scarcely any other treatment could the two fragments be brought into such close apposition; but anybody who knows the difficulty of treating fracture of the patella knows how difficult it is to keep them in apposition, and that if they are not kept so, the patient is maimed for life. The only objection to this operation that can be raised is the danger of it, but under antiseptic precautions, where they are thoroughly carried out, it is probable that the danger will be but little, but it is a melancholy fact that, notwithstanding the perfection to which antiseptic dressings and surgery have been brought, this operation, even in the hands of the best surgeons, is frequently disastrous, that is the cutting down on the knee joint, freshening the edges of the bony surface and wiring them together. When I was in New York a year ago last spring, Dr. Sands told me of two cases that he had known where the patients had suffered amputation and had eventually died, where this operation was attempted, and only about a month ago, Dr. Stimson, at a meeting of the Academy of Medicine, in New York, stated that, during the past summer he had known three cases where an operation had been done in New York and the patients had in all three cases suffered amputation afterward, so that even in the hands of the best surgeons, and with the greatest care taken,

it is a dangerous operation, and surgeons have been endeavoring to find one that is less dangerous, that will accomplish the desired result; whether they will succeed or not remains to be seen. About three or four weeks ago, Dr. Stimson, after making the remarks I have stated, exhibited five cases where he had tied the patella together subcutaneously, and the procedure seemed to me so simple and so likely to be successful that I think it should be tried, and if it succeeds, it will be much simpler than this operation and, I believe, safer. The operation is so simple that I will just show it here on the blackboard, if I can. (Drawing made by the doctor on the blackboard, exhibiting the method of operating.) I tried this last Saturday on an old lady, sixty years of age. I am not able to do what Dr. Buchanan has done, bring my patient here, and perhaps I never shall be able to do so. The patient is perfectly comfortable, and so far as anybody can tell, after this short treatment, bids fair to have a good result. I do not bring this up to criticise Dr. Buchanan. I am very glad to have had an opportunity to see Dr. Buchanan's case, the first one, I believe, that has been operated on in our country.

DR. HUSELTON: I want to congratulate Dr. Buchanan on the successful issue of his case. I had the pleasure of being present when he operated, and am glad to say that I think the operation was very carefully and skilfully performed. At the same time, I do not believe the operation will ever become a popular one; I think that opening so large a joint as the knee-joint is too hazardous, and attended with too much danger, particularly when we are having very good results by the old method. I have had several cases, at least three or four, in my practice, the last one occurring about two years ago, treated by the old method, and the result everything that could be desired. I did claim the union was bony; however, I think this is not the case, but if ligamentous or fibrous,

it is almost impossible to detect the fact. I exhibited the case to at least one person here and would be glad to present the case to the society at some future time for their inspection.

DR. BUCHANAN: I am very glad Dr. Murdoch presented this new method of treatment. I considered that method shortly after I had done this operation. It was then first brought to my notice. It occurred to me that this certainly is a much safer operation than the open method, but it is open to two theoretical objections; whether they are real objections, time alone will tell. The first is that it will probably in a great many cases, if not the majority, be impossible to approximate the fragments exactly by this method. I should think the anterior borders of the patella, by this method, would be tilted a little backward, and that would keep the surfaces from coming together. In wiring a bone, it is sometimes a difficult matter to get the surfaces exactly apposed, even when you have everything open before you and are able to handle the parts, and of course it is very much more difficult when you are doing it subcutaneously. And the second objection that I would suppose to exist in regard to this method is, that the torn fragments of the capsule of the joint float in between the fragments. I believe it has been proposed to pass a needle in and hook these out from between the fragments. At all events, I should imagine from the case of this man, at least, that it would be very difficult to get these shreds from between the broken bones, and it is said by a number of good surgeons (Prof. Macewen was the first, I believe, to state it,) that this is a chief cause of non-union, or rather, of the failure of bony union in this fracture. In regard to Dr. Huselton's results, I think he is to be congratulated. I don't think that the result which he has mentioned is otherwise than exceptional in these cases by the non-operative methods of treatment.

NEW YORK ACADEMY OF MEDICINE.

SECTION IN LARYNGOLOGY AND RHINOLOGY.

Meeting of March 26th, 1889.

COMPLETE BONY OCCLUSION OF THE ANTERIOR NARES DUE TO HYPEROSTOSIS OF THE FACIAL BONES.

DR. G. B. HOPE presented a case of this rare affection, occurring in a young girl, with an account of the operative procedures that were being carried out to secure a nasal passage. The occlusion of the nares was due to growth of the turbinated bones, but while other bones of the face had attained corresponding size and weight (the lower jaw being three-fourths of an inch in thickness and the roof of the mouth half an inch), the other passages and foramina of the skull did not seem to have been encroached upon, with the exception of the lachrymal canal, which had become obstructed first of all, and the Eustachian tube, which was enlarged and of bony hardness. The smell, sight, and hearing were good. She had some cough from pharyngeal catarrh, snored at night, breathed almost entirely through the mouth, and had frequent attacks of coryza. Her other functions were normal. Of nine children in her family, she was one of two living. Her breathing had always been difficult, and she had had two attacks of pneumonia and one of bronchitis. With the electric trephine Dr. Rice was making an opening, now nearly completed, through the pharynx.

DR. KNIGHT had seen thickenings of the palatal bones which about closed the posterior nares, but no case like the one presented. The slight impairment of nervous and other functions was remarkable considering the amount of bony growth.

ETHMOIDITIS—ATTEMPTED OPERATION.

DR. KNIGHT presented a patient upon whom he had operated on the right side, without success, to remove a soft red mass growing in the upper back part of the nasal fossæ. The affection had begun a year or

more previously, being ushered in by intermittent and then persistent headache, and being accompanied by loss of smell and taste. Acids had been without result; the cautery had made a passage, but it had soon closed up again; Weir's forceps had next been used, and had caused repeated discharges of pus, which applications of peroxide of hydrogen had not arrested as yet.

LARYNGEAL VERTIGO.

DR. S. T. ARMSTRONG, of the Marine-Hospital Service, read a paper with this title, in which he had collected all the recorded cases of laryngeal vertigo (sometimes called "epilepsy" and "syncope"), nineteen in number. He gave an elaborate review of the various theories which had been advanced to explain the occurrence of unconsciousness produced by laryngeal irritation. Cases had first been reported by Charcot. Dr. Lefferts and Dr. Gray had each published cases. Convulsions had in most instances been absent; in a few of the cases cited there had been movements. On emerging, the patient was not confused, and in one case it had been recorded that he would continue saying what the attack had interrupted him in. Local treatment of the larynx cured the whole trouble. These facts had led some to object to the term "laryngeal epilepsy," as not being properly descriptive. However, if we recognized that epilepsy might result from a scar or some persistent cause of irritation in any part of the body, it might not seem improbable that intense irritation of the superior laryngeal upon sudden sharp coughing might result in epileptoid unconsciousness by a direct effect on the brain. We need not suppose with some that the vagus and heart were affected primarily. Bromides had in some instances stopped the seizures. In a case occurring in the speaker's practice the attacks had been much favored by a condition of nervous exhaustion or the breathing of a vitiated atmosphere. Dimness of vision and

muscae volitantes preceded the attacks. The speaker preferred the term laryngeal syncope, as standing for a symptom of a functional rather than organic disorder.

THE CENTRAL TRACTS OF OLFACTORY NERVES AND THEIR DISEASES.

DR. C. L. DANA read a paper with this title, in which he presented some facts and views concerning the first cranial nerve that, as he believed, were new. The nose was treated by rhinologists mostly as a respiratory organ. Disturbances of the sense of smell were commonly disregarded by physicians and patients, but it should be remembered that this sense served useful purposes. It was our most delicate means of appreciating attenuated matter. In fishes something akin to a sense of smell, if not an identical sense, was well developed. In reptiles there was a fair development of the sense, and in birds scarcely any; but the highest development was seen in mammals, except those of aquatic habits, like the seal, in which it was nearly wanting. In the anthropoid apes it was not well developed, and in savages, the negro and Indian (contrary to the assertions of some writers), its development was not equal to that which it attained in civilized races. The Indian might be superior in acuteness of smell, but in the discrimination of different odors and the appreciation of flavors and their æsthetic associations the civilized man was as much the superior of the Indian as the latter was in advance of the anthropoid ape. In animals it served for sexual purposes, for selecting food, for hunting prey, and for avoiding enemies. In man it served for selecting food and drink, for arousing the sense of hunger, for warning him against injurious vapors, and for æsthetic and to some extent sexual purposes. Diminution in keenness of olfaction was found present in the criminal, lunatic, idiotic, and degenerate classes in society. The olfactory sense in man was growing, and fortunately so, for every avenue which carried new im-

pressions to the brain helped to develop it. He believed that the sense of smell and taste would one day be cultivated in children as a means of causing them to grow up with greater keenness of mind and larger capacity for discrimination and for æsthetic enjoyment. The sense of smell had always been appealed to in religious rites, and women instinctively learned that to exhale a delicate perfume added to their sexual attractiveness. He had lately observed anosmia in a number of neurasthenic patients, which was often independent of a catarrhal state, and he believed that, like asthenopia, it occurred in both neurasthenia and hysteria. In testing for smell he used ten phials, containing from one one-hundred-and-sixtieth to six-tenths of a grain of vanilline.

At this point the paper enters into an elaborate discussion of the anatomy of the olfactory nerve. In closing the paper the speaker said that he had constructed a qualitative olfactometer for testing the sense of smell much as we tested color-sense or appreciation of musical pitch, consisting of two sets of phials. In the first set were the monatomic alcohols of gradually increasing molecular weight (methyl, ethyl, propyl, and amyl alcohols), and also increasingly pronounced odor; and in the second set were the fatty acids (formic, acetic, propionic, butyric, and valeric acids), whose odor varied from a purely acetic smell to one in which flavor alone was present. A person with a normal sense of smell should be able to distinguish each of those odors and their relative place in the series. Some might be found having a keen sense of smell but odor-blind, just as we found people with keen vision who were color-blind.

Diseases of the intracranial olfactory tracts occurred in locomotor ataxia, general paresis, senile decay, and (of a functional sort) in hysteria. Olfactory neuritis was rare. The tracts might sustain injury in various ways, as from tumors, thrombi,

hæmorrhages, and meningitis in the adjacent pia. Syphilis was probably the leading cause of anosmia.

He believed tests of the sense of smell might aid in the diagnosis of central organic diseases of the brain after the rhinologist had determined that there was no nasal condition affecting the peripheral end-organs of the olfactory nerve.

The CHAIRMAN, who with others discussed the nasal causes of loss of smell, said that, where it was due to hypertrophied conditions in the parts or to polypi, recovery might be brought about, but not after the atrophic stage had been reached.

THE OBSTETRICAL SOCIETY OF BOSTON.

Meeting, February 9, 1889.

DR. J. S. GREENE, of Dorchester, read a paper entitled

SOME USES OF THE VAGINAL TAMPON IN OBSTETRIC ART.

The following is a brief abstract of the paper:

The soothing and moderating influence of the vaginal tampon in dysmenorrhœa and menorrhagia, and the relief which it gives in reflex nervous disorders in cases of pelvic irritation, has suggested its use in cases in obstetric practice, and the report of the following cases is offered in the hope of eliciting accounts of similar cases.

The tampon as I have applied it for purposes here cited has generally consisted of the flattened disks of absorbent cotton moistened with glycerine such as are used in gynæcology. The patient lies on her left side and these pieces, held in the grasp of long, slender forceps, are successively introduced by the right hand, and are guided to their place and adjustment by one or two fingers of the left hand in the vagina. When placed, these pieces form a layer upon the posterior vaginal wall from the cul-de-sac to the verge of the outlet, where they are sustained and secured by a larger piece on either side of the urethra

behind the os pubis. No strong pressure is applied in packing, the guiding finger is preferred to the speculum, no undue distention of the vagina is produced, and the packing is no firmer than is thought to be needful to prevent it from being easily forced out.

The degree of firmness required for this purpose is sufficient to impart considerable support to the uterus and at the same time is comfortable to the wearer. The tampon as thus used has no correspondence except in name with that packing of the vagina in use to control hæmorrhage during abortion. With or without good reason the latter proceeding has the reputation of promoting the evacuation of the uterus by stimulating uterine contraction; but it does this, if at all, by imprisoning the flow, distending the vagina, and pressing downward the perineum.

On the other hand the effect of the tampon as I now advocate it is to increase the secretions, while not hindering their exit, to allay irritation, relieve engorgement, and impart just that degree of support without distention which promotes, rather than opposes, comfort.

When hæmorrhage appears in the course of pregnancy I find the tampon, thus applied, a valuable resource for arresting instead of advancing a threatened abortion.

Rest in bed, aided perhaps by an opiate, or perhaps by hot douching, will often suffice to avert the mischief: but what if the patient does not see the necessity of these precautions, and insists on going about?

A young woman half-through the period of her first pregnancy came to my office, having had flow enough to continue occasional change of napkins for a fortnight. The cervix uteri was flaccid and widely patulous up to the internal os, and the cervix and vagina were catarrhal. She also had reflex symptoms, especially vomiting. I painted the cervix inside and out and the roof of the vagina with a strong solution of iodine, and put in a vaginal tampon firm

enough to contribute some support to the uterus. A few days later these proceedings were repeated at my office. Entire relief of all the symptoms, both local and reflex, followed this treatment: and the patient kept safe and sound to the end of gestation.

During the night of August 30, 1887, I was called to care for a young woman with a sharp attack of secondary hæmorrhage after confinement. She had been comfortably delivered of her third child eleven days previously. She was tall, rather spare, inclined to anæmia, and had been overworked. I could recognize no exciting cause. Delivery and subsequent care had been conducted antiseptically, and I was confident that the placenta and membranes had been wholly expelled. This attack ceased, and if any lochial discharge continued it was without odor.

She was given ergot and quinine and douched with hot water. A week later another hæmorrhage occurred. I then resorted to the vaginal tampon, renewing it twice in the ten days next following. The patient had no further trouble.

I cannot assert that in either of these cases the same favorable course would not have been exhibited if no tampon had been used. I only mention them as experiences which strengthened in my own mind the good opinion I had formed *a priori* of the tampon as an available resource in obstetric practice, and as illustrations of certain conditions wherein its use seemed suggested by analogies derived from gynecological procedure.

For many years I have highly valued the hot vaginal douche in cases of this kind. I have never found any good from medicines, and I do not believe in stretching the cervix uteri.

From recent experiences I have come to the belief that the vaginal tampon as an alternative or substitute for the douche, is an invaluable resource. Its combined depleting and supporting influence at once removes reflex irritability, enabling the

stomach to do its full duty, and permits walking and other forms of exercise with the minimum of fatigue, thus securing the two great essentials of good nutrition.

The last case which I shall present as illustrative of the obstetric uses of the tampon is a typical instance of the class of patients above denoted.

Mrs. Y. is of light blonde complexion, twenty-two years of age. Six years ago she relinquished systematic study for want of strength, and was for some months under my guidance for neurasthenia. She improved but continued easily susceptible of fatigue; married in October, 1886.

Went to Europe and returned in October, 1887, with symptoms of pregnancy.

Nausea and vomiting became troublesome, headaches followed, and the shadow of impending prostration darkened the background of the prospect. Vaginal douches were used and one or two medicines tried before October ended; but no advantage was gained. The vaginal tampon was resorted to November 1st, in the eighth week of pregnancy, and its good effect was immediately manifest.

She resumed her daily walks, retained her food, improved in appetite, and slept better. The tampon was renewed at intervals of five to seven days for nearly five weeks. When discontinued it was with the purpose of resuming its use if any retrograde tendency should be noted; but the advantage gained proved a lasting one. She had entered upon the fourth month of her pregnancy, and taught by much experience of weakness to be prudent and to carefully follow a prescribed policy, she passed safely, and on the whole comfortably, through the subsequent months of gestation.

Dr. ABBOTT asked whether the tampon was used empirically or for the purpose of supporting the uterus.

The reader replied that it acted partly as a depleting agent, relieving engorgement, and partly mechanically as a support.

Dr. DAVENPORT said that he was very much interested in the paper, as he had very recently been engaged in enumerating and formulating the various uses of the tampon in gynaecological practice. These obstetrical uses of the same agent had not occurred to him at the time, but they completed the consideration of the subject. Most of the uses spoken of were rational, and might be used with great benefit in the conditions named. Of especial value was the use of the tampon in the early months of pregnancy, to allay vomiting, and relieve pressure. Even where the vomiting was not excessive but only annoying, he thought a light tampon might afford great relief. The depleting effect of the glycerine would not in his opinion be sufficient to do any harm by interfering with the circulation of the uterus.

He had recently had a case illustrating the value of this method following miscarriage. The patient had miscarried on January 10, and had kept quiet for ten days without any unpleasant symptoms. She resumed her business, which was that of a fashionable dressmaker, and in a few days came complaining of backache and slight hæmorrhage. Dr. Davenport found a heavy retroverted uterus, with a badly lacerated cervix, and with a small amount of blood and mucus exuding from it. Twice packing with the glycerine tampon checked the flowing, restored the uterus to its normal position, and relieved the backache. Then a pessary was applied which will be worn until the cervix is repaired, which will be in the course of a few months.

In reply to a question by Dr. Richardson, the reader said that he had used the tampon in the case reported of threatened miscarriage at the fourth month, not as a plug to stop hæmorrhage, but to give support to the uterus, and relieve the existing inflammation of the mucous membrane, and that its use was to a certain extent empirical.

Dr. RICHARDSON had never used it in these cases, and would think that the pack-

ing might start up pains, or, by causing a backing up of blood, there might be danger of separation of the placental tissue from the uterus. He had used the tampon during pregnancy only for the purpose of relieving nausea and vomiting. He had recently been interested in some German accounts, where the uterus itself was packed with iodoform gauze.

DR. GREEN said he could well believe that a light, medicated tampon might sometimes be of service in various affections of pregnancy, either for obtaining the derivative effect of glycerine, or for healing erosions or diminishing undue sensitiveness of the cervix. But applied to the extent of affording appreciable mechanical support, he believed the tampon was an unsafe expedient. He had himself, when a hospital house-officer, induced an abortion in a patient not supposed to be pregnant, by applying a tampon to raise a retroverted uterus. And he believed one of the most effective means of exciting uterine contractions was distending the vagina with tampon or colpeurynter. He inferred, therefore, that the reader could not have employed the usual gynecological tampon; and that his good results were attributed to local medication, and not to mechanical support, which implies a certain amount of vaginal distention.

The reader agreed with Dr. Green, that in the case of distention of the vagina by the tampon there would be risk of inducing labor, but said he had no hesitation in using the tampon in the manner described by him in any parturient case.

DR. COTTING then read a paper entitled

THE LIE OF THE FŒTUS.

DR. ALFRED WORCESTER, of Waltham, read by invitation a paper entitled

A SERIES OF TWO HUNDRED CONSECUTIVE CASES OF MIDWIFERY IN PRIVATE PRACTICE.

DR. HOMANS showed a fibroid tumor of the uterus, weighing eight pounds, removed by hysterectomy, with recovery.

Also the fallopian tubes from a case of salpingitis removed entire. The tubes were each about seven inches long, and one and three-fourths inches broad, distended with pus.

DR. SINCLAIR reported

A CASE OF PARTIAL RETENTION OF THE MENSTRUAL EXCRETION BY A MEMBRANOUS OCCLUSION OF THE OS UTERI.

On the 13th of October last a lady consulted me about menstrual disorder. From the 25th of December, 1887, the date of her delivery, until about the same date in September, 1888, a period of nine months, her menses failed to appear, although she had sensation of being unwell from time to time, which gradually died away without any visible discharge. At this time she had a gush of blood from the vagina which lasted two, or maybe three hours. At the time of her visit on October 13, 1888, there was a slight, brownish, mucous discharge from the vagina. Her general condition seemed good. Appetite, bowels, sleep, and kidneys well. No complaint made of pelvic organs. On tactile examination, I found an enlarged and boggy cervix uteri, and a heavy uterine body. The examining finger was stained with a light brownish substance. The question of pregnancy naturally occurred to me. Specular examination revealed an unusual state of things—an orifice of the size of a cambric needle from which exuded a stringy substance, which I at first mistook for the product of an abscess. Into this small opening I passed a small probe, at the same time pressed the speculum against the cervix uteri, with the result that more of the substance referred to was squeezed out. On further advance of the probe, I found that it entered freely into a cavity of unknown depth. I then made free incision with a bistoury, followed by a gush of four or even more ounces of a grayish, stringy fluid, mucus, and blood. I simply incised the occluded os uteri. The uterus measured over four

inches in depth. The uterine cavity was washed out and the parts thoroughly cleansed by a solution of corrosive sublimate.

The after treatment of such a case was obvious, and may be summed up in the prevention of recurrence. It would seem to one not acquainted with the behavior of such cases that little else than that I had done was necessary. My experience is that of others, that the tendency to recurrence of occlusion of the os uteri in such cases is constant and demands care. The treatment consisted in dilatation with the uterine dilator, and by iodized phenol to the endocervix. The uterus is now three inches in depth, and the catamenia have become regular. The patient may need watching. Cases of this kind are not common, and in thirty years only four have come to my care.

CHICAGO MEDICAL SOCIETY.

Stated Meeting, February 18.

THE PRESIDENT IN THE CHAIR.

Dr. N. H. PIERCE read a paper entitled
THE BACILLUS OF KOCH AND ITS
PATHOLOGICAL INFLUENCE.

It has taken practically over twenty-two years to develop the exact pathology of tuberculosis. Since 1865, when Villepin proclaimed that by vaccination with tuberculous matter an identical process like that of human tuberculosis could be produced in some of the lower animals, the contagious and infectious character of tuberculosis was partly believed or assumed by many. This, however, does not detract from the brilliancy of Robert Koch's discovery of the specific cause of tuberculosis, nor does it alter the fact that this discovery is unquestionably the most significant advance made in pathological investigation. Before Koch's memorable communication to the Berlin Physiological Society the "cheese infection theory," as explained by Buhl, and the weakly "dia-

thesis theory" strove for supremacy as the disguise for real ignorance as to the true cause of the tubercular process.

The student who desires a plain statement of the condition of our knowledge of tuberculosis before Koch's investigations can find one in Klein's paper in the Practitioner for August, 1881. The results of Koch's investigations have been confirmed by many investigators. The result of this knowledge is used in our every day practice as data upon which we base diagnosis and treatment. The specific character of the micro-organism named by Koch, the bacillus tuberculosis, has been established.

It consists of a cell wall inclosing a protoplasmic body called mycroprotein. It belongs to the smallest and finest bacillary forms known to us. Only the bacillus of mice septicæmia surpasses it in fineness. The length of the single rod ranges from one and one-half to three and one-half in.—equal to one-fourth to three-fourths the diameter of the red blood corpuscle, and their width is from one-fifth to one-sixth of their length. The ends of these rods appear to be rounded. The bacilli arising from an artificial culture fluid are in general shorter and finer than those growing in the animal organism. The largest forms are found in the sputum of phthisis.

The bacillus tuberculosis is quite able to endure the influence of any or all of the digestive secretions of the animal organism, and especially those of the stomach, as was proven by Falk in his artificial cultures and by the positive results obtained by Schell and Fischer in their feeding experiments. The tuberculosis bacillus has a very great resistance comparatively to the action of all disinfectants. Thus the tuberculosis bacillus were destroyed only after twenty hours' contact with a three per cent. carbolic acid solution. This latter substance is, therefore, not to be relied upon, especially in the disinfection of

tubercular sputum, in solutions of less than five to ten per cent. Another fact of some importance is, that corrosive sublimate is not applicable in disinfection of sputum; not because of a resistance on the part of the tuberculosis bacillus to this most powerful germicide, but because it *curds* the sputum, thus materially hindering the complete mixture of the solution with all parts of the sputum. Practically we have no destructive agent that can be compared to heat, and especially moist heat, and this should be employed wherever possible.

This bacillus may gain an entrance into the human body in one of three ways: First, by respiration; second, by alimentation, and third, by inoculation. The subsequent pathological varieties will depend, first, upon the conditions of the tissues of the individual; second, the place of invasion, and the vitality or degree of malignity of the bacilli invading.

The bacillus tuberculosis never forms pus; only when the so-called tubercular granulation tissue has become infected with the staphylococcus, or streptococcus, can true pus be formed. The contents of a purely tuberculous abscess contains only a few round cells, but an amorphous shreddy material the result of the digestive power of ptomaines secreted by the bacillus tuberculosis upon the granulation tissue.

DR. L. L. McARTHUR read a paper entitled

SURGICAL TUBERCULOSIS OF BONES.

In the department of osseous pathology, as in every other branch of our science, there has been made, during the last decade, such progress in our knowledge of the etiology and treatment of bone-diseases as to revolutionize the theories we have held, and offer to us in their place facts, fixed and incontrovertible, which have the impress of truth upon them, as well as the proof of actual experiment. Nor is it strange that with no exact knowl-

edge of the ultimate causation of inflammation that theories nearly as numerous as the authorities devising them, filled our text books with vague terms to suit each writer's fancy, as well as multiply synonyms for the relatively few forms of bony inflammation; just as in the department of medicine there was a time when a diagnosis of "dropsy," "Bright's disease," or salt rheum, was esteemed sufficiently refined, though they were only results; so, until recently, we were content with an equally indefinite *result*, caries, or necrosis, which simply signifies molecular death, and death en masse. Without the slightest hint as to causation; with many theories existing there was naturally enough, great ignorance of and mystery surrounding all bone inflammations until nature solved the question for us in the result, caries or necrosis. Recently, however, there has come to us new knowledge; new facts that render clear what was obscure. Shall we permit the old ideas to be replaced by these new facts?

In considering tubercular bone disease, one or two anatomical facts have a distinct bearing on the subject in question, and on a thorough understanding of osteitis.

First. That the periosteum, endosteum, and medullary substance are as one, and inseparable as the peritoneum is in its various folds and turns, for the one is connected with the other by numerous blood vessels and processes, which form the union between the outer and inner membrane, as well as with the outer surface of the bone.

Second. That the seat of greatest vascularity and slowest circulation are in bones, the site of their diseases, and these are in cancellated or at junction of epiphyseal cartilage.

Third. That the nutrient artery of bones of the upper extremity run *toward the elbow*, while from the knee in the lower extremity. Now it follows that

since the calcareous matter in bones only plays a passive part in any of its inflammations, there remains only its vascular skeleton, the peri and endosteum, which are only continuations of one and the same tissue, to play the active part, and since this is the source of nutrition, just so far as the function of this is interfered with just so far will we have a caries or necrosis as a result, with this difference: that whereas the products of inflammation in the periosteum can find a means of escape and thus relieve the pressure which is cutting off the nutrition of that portion of bone thus dying, inflammations of the other portion of the nourishing membrane being within an unyielding wall, any inflammation there, cuts off the nutrition of greater masses, hence gives rise to much greater constitutional disturbance, and in its efforts to escape from the confined pressure, always ends in osteitis and periosteitis.

Just here begins, from former ignorance of the cause of bone inflammation, part of the "distinction in terms without a difference," for whether it be an inflammation of the medulla, the endosteum, or periosteum it is practically an osteitis, and since there is no hard and fast boundary line between the medulla, the endosteum, and the periosteum, to make a distinction is only to confound and not to enlighten. Hence the terms endosteitis, periosteitis, and osteo-myelitis are in their pathologic nature synonymous, though differing in location. The latter is now used synonymously for all. In every bone inflammation we have two or all of three factors taking part in its production.

First. Trauma, whether from blow, cold, mineral poison or fevers.

Second. One or more of the organisms which induce suppuration.

Third. One of the organisms which induce tuberculosis, syphilis or rheumatism.

"In bony inflammations, the importance

of the presence of micro-organisms can not be over-estimated," as to the casual relation they bear, while the species to which they belong determine the nature of the inflammation. When any of the organisms which induce suppuration are present, an osteo-myelitis results. When the tuberculous bacillus, syphilitic, or rheumatic organism, then an inflammation peculiar to that organism ensues. Now these things are settled, namely: That whenever micro-organisms are caught as infarcts in a tissue, they induce those pathologic changes in it which characterize that particular species.

There are often in the circulation, wholly compatible with a healthy condition, one or more of those germs whose actions on the tissues are noxious; but which without some traumatism are wholly, thanks to the leucocyte, unable to escape from their death in some of the eliminative organs, to which the blood current is hurrying them. Let, however, a lesion of any of the vessels or capillaries through which these might flow occur—a stasis even—it then becomes possible for them to wander out with or in the leucocyte, where the latter dying permits and encourages the growth of the germ in question, and all the evil consequences which this implies.

There are some peculiarities about the trauma permitting the infection. Slight traumas are frequently followed by tuberculosis; while severe injuries are not. The active reparative process in the latter case preventing the slower tuberculous process, for if there be a characteristic of bone tuberculosis that takes the precedence of all others it is its slow, and chronic nature.

Though a direct injury is a frequent element in the primary infection, the other modes of ingress are numerous.

Volckmann, the greatest living authority on tuberculosis, says that everything that heretofore has been called caries of bones,

spina ventosa, pædarthrocace, belongs, with exceeding few exceptions, to tuberculosis.

Knowing the nature of tuberculosis better than before, we are now making every effort to totally and completely remove when operating the smallest suspicious focus, and as in operations for carcinoma, to repeat our work at the earliest evidence of a return. When the infective matter has been once thoroughly removed the chances of a return are not great, though it does occur sometimes in other parts—Billroth stating the proposition that if there has been an early tuberculosis, there will be a return by the age of fifty. After operations for tubercular bone disease, too, there has ensued a general miliary tuberculosis. This, however, is as rare as that other phenomena of bone surgery—fatty embolism of lungs.

It is useless to deny the spontaneous cure of tubercular osteitis when we have so many cases of spina ventosa, Pott's disease and tumor albus that have recovered without treatment. It is useless to deny the tuberculous character of an affection when a successful inoculation has been practiced.

The tubercular diathesis does not offer a just objection to operative interference.

Iodoform is the mainstay and sheet-anchor in after treatment.

Special Meeting, February 27.

DR. F. E. WAXHAM presented a patient wearing both an intubation and a tracheotomy tube with very little discomfort, the only annoyance being the necessity for changing the tracheotomy tube once or twice a week.

The case was interesting on many accounts: First, on account of the age of the patient. Laryngeal growths are very uncommon in children, but when met with they are almost always benign and papillomatous in character. Papillomata of the

larynx are rarely met with in a child so young as this one, being only $2\frac{1}{2}$ years of age when the first operation was performed for papilloma, now being about 3 years old.

The history of this case was interesting also as showing the great tolerance of the larynx for laryngeal tubes.

DR. H. GRADLE read a paper entitled

REPORT OF A CASE OF TRANSPLANTATION OF THE SKIN FOR THE CURE OF ECTROPIUM,

which appeared in the March number of THE JOURNAL AND EXAMINER.

DR. HORACE M. STARKEY presented

A CASE ILLUSTRATING WOLFE'S METHOD OF SKIN TRANSPORTATION, WITH REMARKS,

the patient having received burns on October 27th, 1887, by explosion of a tank of varnish which was being boiled in the process of manufacture. His head, face, neck and hands were badly burned. Over six months from the receipt of the injury elapsed before any attempt was made to lessen, by operative measures, the great deformity that had been occasioned.

May 3d, 1888, an attempt was made to improve the position of the right lower lid as follows: A curved and pointed flap of integument 2.75 millimetres ($1\frac{1}{8}$ inches) broad at the base and 13 centimetres (5 inches) long on its convex border, was raised from its bed, and while not detached at the base was revolved in such a way as to raise the lid to its proper position. This left an uncovered surface 1.5 centimetres ($\frac{3}{8}$ inches) broad and 8 centimetres (3 inches) long. To cover this a piece of skin somewhat crescent-shaped 14.5 centimetres ($5\frac{3}{4}$ inches) on its convex border and 2.5 centimetres (1 inch) broad was detached from the inner side of the forearm and placed like a picture in a frame on the denuded surface. Only a part of this transported portion retained its vitality permanently. There was no sloughing, but part became mummified and seemed to dissolve in the second week.

The failure of most of this graft to finally live is perhaps due to a fault in the details of the operation, of which I will speak later. Owing to the failure of part of the graft the improvement which at first was very considerable was not very marked after the lapse of three or four months.

July 21st, 1888, the ectropium, which was not extreme, of the left lower lid was corrected by the operation devised by Wharton Jones.

After seven months from the continued contraction there is now a slight separation of the lid from the eyeball.

The second operation upon the right side was performed October 31st, 1888, and consisted in freeing both eyelids from the cicatricial bands holding them, dissecting out some of the most dense of those bands, restoring as nearly as possible the lids to their normal position, and transporting from the forearm pieces of skin large enough to fill the deficiency. The transported graft for the upper lid was 5 centimetres (2 inches) long by 17.5 millimetres ($\frac{3}{4}$ inch) broad, and that for the lower lid was 7.5 centimetres (3 inches) by 2.5 centimetres (1 inch). These both retained their vitality perfectly and now constitute part of the skin of the corresponding parts and can scarcely be distinguished from the surrounding tissue.

While the improvement from this operation was very marked and has remained permanent for the upper lid, the lower lid was gradually everted until the ectropium amounted to about 12.5 millimetres ($\frac{1}{2}$ inch), and January 7th, 1889, another transportation was performed. In this instance the graft was 5.5 centimetres ($2\frac{1}{4}$ inches) by 2 centimetres ($\frac{2}{3}$ inch). The lid is not in close apposition with the eyeball, and it is doubtful if it can be made to assume that position permanently, but the improvement in appearance and in the comfort of the patient is very great.

HARVEIAN SOCIETY OF LONDON.

Meeting Held March 28, 1889.

THE PRESIDENT, THOMAS BUZZARD, M. D.,
F. R. C. P., IN THE CHAIR.

INGUINAL VERSUS LUMBAR COLOTOMY.

By HARRISON CRIPPS, F. R. C. S.

The author, after giving an account of the history of colotomy, and drawing attention to the improvements in detail, introduced by Mr. Bryant and Mr. Davis Colley to the lumbar operation, further called attention to how much the profession was indebted to Mr. Reeves, Mr. Lawson Tait, Mr. Chavasse, Mr. Allingham and others for re-introducing the inguinal or intra-abdominal method of opening the bowel. After quoting Erckelen's and Batts' statistics, published in 1884, of several hundred cases of colotomy, collected from various sources, with a mortality of between 40 and 50 per cent., showed that such statistics were entirely misleading, and how with improved methods and hygienic surroundings the mortality might be immensely reduced. Of Mr. Harrison Cripps' own cases 15 were performed in the lumbar region, and 22 in the inguinal, nearly all the cases being undertaken for malignant disease. There was but a single death in each series of cases, thus the mortality was only a trifle over 5 per cent. Mr. Harrison Cripps, after thus vindicating colotomy as a fairly safe operation, proceeded to compare the inguinal with the lumbar method, stating that he considered the former vastly superior.

There were certain grave objections to the lumbar operation, amongst these were enumerated the depth of the bowel in a fat subject, the very limited space in which the surgeon had to work between the crests of the ilium and the last rib, which made it often difficult to find the bowel without severe damage to the surrounding tissues. Then, again, there was often a difficulty in recognizing the colon, so that numerous mistakes had been made in opening the

small intestine, and even the stomach. But perhaps the gravest objection of all was that it not infrequently occurred that the course of the colon was so abnormal as to make it quite impossible to find it by the lumbar wound, the attempted operation ending in a fiasco. On the other hand, the inguinal operation met all these objections. There was plenty of space, the bowel could be absolutely identified, there was no tension on the stitches, and little difficulty in finding an abnormal colon. Moreover, the inguinal method had one great advantage entirely of its own, by enabling the abdomen to be explored and the site of the obstruction to be verified before opening the bowel, so that the mistake of being below the lesion could not occur. This was illustrated by two cases given in the table.

The objections raised to the inguinal operation were subsequent prolapse of the bowel, and that it was not suitable for urgent cases. In the author's experience prolapse was not more frequent from the one opening than from the other, and by a little care in the inguinal operation it could to a great extent be avoided. As to urgent cases he had no hesitation in opening the bowel immediately, as was done in two instances narrated with perfectly successful result. Mr. Harrison Cripps then described in some detail the operation he performed for inguinal colotomy. The incision, two inches and a-half in length crossed an imaginary line drawn from the anterior-superior spine to the umbilicus an inch and a-half from the former bony part.

In making the incision the skin should be drawn a little inwards, so as to make the opening somewhat valvular. The peritoneum being reached, it is pinched up by fine forceps, and an opening made sufficient to admit the finger. The intestines being protected by the finger, the peritoneum is divided by scissors to nearly the full length of the cutaneous incision. The colon may now at once show itself, and can easily be recognized by its longitudinal bands, its

glandulæ epiploicæ, and by its regular convoluted surface. In about a third of my cases the large intestine presented at once; in the others either the small intestine, omentum, or mesentery first appeared. If any of these latter present, they must be pushed back and the colon sought for by the finger. Sometimes it can be detected by the hard scybalous masses within it, or it can be traced up after passing the finger into the pelvis and feeling for it as it crosses the brim.

The colon being found, a loop of it is drawn into the wound. In order to avoid the prolapse which is likely to occur if loose folds of the sigmoid flexure remain immediately above the opening, I gently draw out as much loose bowel as will readily come, passing it in again at the lower angle as it is drawn out from above. In this way, after passing through one's fingers an amount varying from one to several inches, no more will come. Two provisional ligatures of stout silk are passed through the longitudinal muscular band opposite the mesenteric attachment. These provisional ligatures, the ends of which are left long, help to steady the bowel during its subsequent stitching to the skin, and moreover, are useful as guides when the bowel is ultimately opened. They should be about two inches apart.

The bowel is now temporarily returned into the cavity. With a pair of fine forceps the parietal peritoneum is picked up, and attached to the skin on each side of the incision, the muscular coats of the abdominal wall not being included. Four sutures of fine Chinese silk are sufficient, two on each side, an inch and a half apart.

The bowel is again drawn out, and fixed to the skin and parietal peritoneum by seven or eight fine ligatures on each side, the last suture at each angle going across from one side to the other. The bowel should be so attached as to have two-thirds of its circumference external to the sutures. By turning the bowel slightly over, the

lower longitudinal band can be clearly seen, and it is best to pass the sutures for the lower side through this, since it is a strong portion of the gut. The upper longitudinal band through which the provisional ligatures have already been passed is seen in the middle line of the wound. The bowel being now turned downwards, the opposite line of sutures are inserted close to its mesenteric attachment. No longitudinal band can, however, here be seen. The sutures, of the finest Chinese silk, are passed by small, partly curved needles, the needle passing through the skin one-eighth of an inch from the margin, then through the parietal layer of the peritoneum, and, lastly, partly through the muscular coat of the bowel, great care being taken to avoid perforating the mucous membrane. It is easier to pass all the threads before tying them up.

The wound should be most carefully and gently cleaned; the threads can then be all tied with moderate tightness. If the case is urgent, the bowel may now be opened; if not, a piece of green protective is put over it, a necessary precaution to prevent the granulations adhering to the gauze. The whole is covered with an antiseptic dressing, an additional thick pad being placed over the site of the wound. A broad flannel bandage is then wound firmly around the abdomen, so as to ensure considerable pressure. This is a most important precaution, for, should vomiting occur, the bowel is likely to burst away from the stitches. I also insist on the nurse sitting by the patient, with directions to press her hand firmly over the wound should sickness occur. When the patient becomes sensible, he can do this for himself. The wound is best dressed on the following day, to make sure that nothing has been misplaced.

If all goes well, the dressings may be reapplied, and the bowel not opened till the fifth or sixth day. The bowel being insensible, no anæsthetic is required. It

will usually be found covered with a layer of lymph of surprising thickness. The provisional ligatures which have been left in will be found a useful guide, the bowel being opened to the full length between them. The superfluous flaps on either side are trimmed off with scissors to the level of the skin. In doing this one or two vessels require to be tied.

All ligatures may be safely removed by the ninth day, or earlier if there is redness around them. Firm pressure with a pad and bandage will be required for some time later.

He considered that it was a mistake to use too many sutures, this causing unnecessary strangulation of the skin, and preventing primary union. He saw no advantage in the suture passed through the mesentery, and had no difficulty in obtaining an excellent spur by attaching the bowel so that two-thirds of its circumference were above the level of the sutures.

The question as to when the bowel should be opened was considered as an important one. The author preferred to wait until the fifth or sixth day if all went well, but if the belly became distended, or there was the slightest vomiting, it should be opened at once. Firm pressure by a pad and several turns of bandage was very important for the first few days, for, with any strain on the part the bowel was liable to burst away.

The subsequent inconvenience arising from the new anus was but slight, the patient usually having a motion once a day with the knowledge of when it was coming, and power of controlling it by pressure.

In conclusion, Mr. Cripps stated that he considered the inguinal operation as now conducted was a marked advance in surgery, and he believed that before long the lumbar operation would be merely retained for a few exceptional cases of complete obstruction, and, moreover, now he trusted that it could be shown that the mortality was little more than 5 per cent., that sur-

geons would have more confidence in the operation, and would recognize its great value as a means of relieving suffering and threatened obstruction in advancing cases of malignant disease of the lower bowel.

In the discussion that followed,

MR. ALFRED COOPER said that during his twenty-five years' service as one of the surgeons to St. Mark's Hospital he had done and seen done many lumbar colotomies. He had ever felt most dissatisfied with the operation for the reasons mentioned by Mr. Cripps, and also for the difficulty experienced in maintaining cleanliness. Since Mr. Herbert Allingham's introduction of a modification of Littré's operation, Mr. Cooper had performed none but inguinal colotomies. He had found, however, that the omission of the deep suture had led to the passage of fæces into the lower gut.

MR. JACOBSON had of late been disappointed with inguinal colotomy. He had found a great amount of prolapse after the operation. He showed a patient, æt. 28, for whom he had performed lumbar colotomy just two years before. The artificial anus acted twice daily, and there was next to no prolapse. She was able to do household work. If inguinal colotomy is to become frequent, the lumbar operation, he thought, had still an eminent advantage for young married women. He believed also that the inguinal operation was undesirable in cases of sigmoid cancer, for it must here necessarily be performed near to the seat of disease. The frequency of cancerous disease of the sigmoid flexure was, he thought, under-estimated. His late colleague, Dr. Fagge, had shown that out of 100 cases of malignant disease of the large bowel, the seat of disease was in 4 cases the cæcum, in 10 cases the ascending colon, in 11 cases the transverse colon, and in 15 cases the descending colon, in 30 cases the sigmoid flexure, and in 30 cases the rectum. He still thought it a serious matter to open the peritoneum, as was necessary in performing the inguinal

operation. The dangers of interfering with this membrane might be diminished, but never abolished, and that operation should be preferred which did not necessitate such a procedure. Mr. Jacobson wished to point out that when discussions such as this were published, operators less expert than those present were tempted to perform the operations described, upon patients in cottage hospitals and similar institutions, and he believed that to such operators the dangers of inguinal were greater than those of lumbar colotomy. Lastly, it must be remembered that the patient subjected to colotomy was often suffering from a mortal disease, and for such the gentler operation should be chosen. This he believed to be the extra-peritoneal operation. In performing the operation he believed it desirable to make a large opening, for the prolapse which might possibly follow was a lesser evil than the access of fæces to the lower portion of gut, such as occurred often when a small opening was made.

MR. SWINFORD EDWARDS thought Mr. Jacobson's case a most favorable one. He had found prolapse quite as great in lumbar as in inguinal colotomy. He believed carcinoma of the sigmoid flexure to be very rare compared with that of the rectum. He was of the opinion that the advantages of inguinal over lumbar colotomy were four in number. It was easier of performance, the desired portion of the bowel was more easily found, the artificial anus was more conveniently placed for the patient, and also when there was considerable distention of the abdomen, the danger of turning the patient over was avoided. He had done 18 colotomies himself in the past two years. From this experience he thought it important to make a small abdominal incision to avoid prolapse of the bowel and of the abdominal contents. He considered the deep suture of importance as assisting in the formation of a spur. He believed it most important to cover the wound with green protective, as Mr. Cripps had advo-

cated. It was also essential to give adequate support after the operation. The want of this in one of his cases had led to prolapse of the great omentum. He left this alone, and it gradually shrank away. He advocated inguinal colotomy as modified by Mr. Herbert Allingham in all cases requiring colotomy, even in those of acute obstruction, and he believed that extravasation of feces into the peritoneum could in all cases be prevented.

DR. BALL, of Dublin, believed that Dr. Cripps had made out a good case for the intra-peritoneal against the extra-peritoneal operation of opening the colon. He further thought it impossible in such an operation to open the intestine below the stricture, as he had seen done in the lumbar operation. He believed that a modification of the operation might completely cut off the access of feces to the cancerous portion of intestine. He thought, too, that the union of bowel to skin might be more easily brought about in front than behind on account of the thinness of the skin in the former situation. By the inguinal method, we ensured a shorter distance between the artificial anus and the cancer, and thus left a greater surface of intestine available for purposes of absorption. A contra-indication of inguinal colotomy was stated to be extensive meteorism, and this he believed to be a cause of great prolapse of bowel not easily replaced. In one case he had seen it necessary to incise the small intestine to ensure its return, and the operation was fatal. In extensive meteorism he preferred the lumbar operation. If the inguinal method be adopted, the abdominal cavity was most easily opened through the linea semilunaris. This he demonstrated from a frozen section. By this operation no muscular fibres were wounded and union was more easy. If the incision were too low the deep epigastric artery might be avoided by taking a line of incision not below the intersection of the linea semilunaris with the line join-

ing the umbilicus with the middle of Poupart's ligament. If it could be ensured that no fecal matter would escape into the peritoneum, he thought it much better to complete the operation in one stage. He described the method of operating he himself adopted to avoid extravasation of feces. The bowel was thereby clamped twice before the sutures were passed. He had performed the operation thus eight times, and always with success. He considered it objectionable to perform the operation *à deux temps*, Sutures in the intestine tended to produce vomiting, and consequently the risk of this was doubled when the operation was performed in two stages.

DR. CURTIS, of New York, said that in America colotomy was preferred to resection of the rectum in all severe and extensive cases of cancer. The inguinal operation was almost entirely performed in preference to the lumbar operation. He himself had operated upon a patient with great meteorism, and had found that the incision did not fall over the centre of the sigmoid flexure, and this led to great difficulty in the operation. An opening into the general peritoneal cavity thus produced, had had to be filled up with iodoform gauze before the bowel was sutured.

MR. BRYANT had had only a limited experience of inguinal colotomy. He had done it only for congenital malformation. He had seen several cases after this operation where severe prolapse had troubled the patient. He had not seen such prolapse after lumbar colotomy. He thought that lumbar colotomy was not more objectionable to the patient than was the inguinal operation. Cleanliness was just as easily ensured. He had rarely seen difficulty arise from prolapse in any of the large number of cases of lumbar colotomy he had performed. Some amount of prolapse was necessary to avoid the passage of feces into the lower bowel. He had seen prolapse of the lower part of the bowel after

lumbar colotomy, but this was not very troublesome. He fully believed that inguinal colotomy was an easy operation, but he doubted if lumbar colotomy was after all so difficult as was believed; and if it were, this was a point to be overcome by the surgeon for the good of the patient. It was not the object of the surgeon to invent an operation so easy as to be performed by any one however inexperienced. He had not experienced much difficulty in finding the portion of the bowel he wished to open. He, therefore, still advocated lumbar colotomy in preference to the inguinal operation. He believed still that it increased the dangers of an operation to open the peritoneum. He insisted also upon the greater risk of cancer attacking the wound in inguinal than in lumbar colotomy. In case of failure of the first operation it was much easier and much less dangerous to change the side of operation if the lumbar operation were done, than if the inguinal operation were adopted.

MR. HERBERT ALLINGHAM had performed eighteen inguinal colotomies, and had found it much easier than lumbar colotomy. He still thought, however, that lumbar colotomy had been abused, and that the mistakes made in the operation were due to carelessness. In lumbar colotomy the peritoneum was opened a great deal more frequently than operators were aware of, and it was, he believed, better to open the peritoneum to find the large intestine surely than to grope for it in uncertainty. He described the method of inguinal colotomy he himself had adopted. He believed that inguinal colotomy was of no use unless a good spur was procured. He had observed great prociencia of the large intestine after lumbar colotomy. He had also seen after inguinal colotomy prolapse of the lower portion of the bowel. This, he had suggested in a paper read before the Medical Society in November, 1888, should be treated by removing the prolapsed bowel, and he had seen no evil

results occur from the adoption of such a course.

MR. BENTON had seen a case in which the prolapsed gut would half fill a peck measure. He believed that prolapse was as frequent from the lower as from the upper portion of the bowel. He generally opened the bowel on the third day, and he treated distention by pricking with a grooved needle.

MR. CRIPPS, in reply, said that he was inclined to think Dr. Ball's suggestions as to the operation valuable. He had had little trouble from prolapse, and such as there had been was from the upper portion of the bowel. He considered the question of cleanliness not a very important point. He thought inguinal colotomy the more preferable because it was easier than the lumbar operation, for the latter might not only be difficult, but even impossible. He believed it had been shown that it was not much, if at all, more dangerous to wound the peritoneum than any other structure of the body.—*The Medical Press*, April 10, 1889.

ROYAL ACADEMY OF MEDICINE.

THE SPREAD OF TUBERCULAR DISEASE BY CONTAGION.

E. MACDOWEL COSGRAVE, M.D., before the State Medicine Section:

I venture to lay the following remarks before the State Medicine Section, feeling that in all probability tubercular disease will rapidly assume more and more importance in preventive medicine. It is really not many years since the medical profession shared the fatalistic views still held by the public, and indeed, the very expression "preventive diseases" so freely used until lately, seemed to mark out by a rigid line certain diseases which sanitary science might be hoped to lessen, separating them from all others.

Of late years the position of tubercular disease has greatly changed, and now the

prophylaxis of phthisis and the hygienic treatment of its earlier stages have assumed great importance, and it is being recognized that it is contagious, and spreads by contagion. It is hardly necessary to point out the importance of tubercular diseases. In the decade 1871-80 phthisis was given as the cause of more than one-tenth of the deaths registered in Ireland, that is to say, 103,528 out of 966,745. Tubercular diseases generally cause about one-seventh of the deaths occurring in the United Kingdom.

An important advance was made early in 1882 by Koch's discovery of apparently specific bacteria in tubercle, and by his claim to have cultivated these bacteria external to the body, and apart from tubercular matter, in suitable cultivation media, and then to have developed tuberculosis in guinea pigs and rabbits by inoculating with the organisms thus grown. It has since been generally recognized that the disease is caused by a specific morbid irritant acting on tissue of lowered vitality.

An important declaration of the opinion of medical men was elicited by the Collective Investigation Committee of the British Medical Association in 1884, in answer to a circular asking whether phthisis was contagious, and for evidence for or against; 1,078 medical men answered; of these 673 simply wrote No, without appending any explanation. The remaining 405 reported observations; of these 105 answered No, 39 were doubtful, and 261 answered Yes.

The full force of the affirmative evidence in these statistics is much greater than its numerical expression, for the question was asked to those whose minds were more or less prejudiced in favor of a negative answer. They had been brought up to look upon phthisis as non-contagious, and so their minds were not fairly fitted to recognize contagion. It is always hard to recognize an undescribed causation, and incidents which frequently follow the one

or the other, are often looked upon as cause and effect until some other interdependence is pointed out.

A good example of this fallacy is the exaggerated position the heredity of phthisis occupies in the minds of medical men. This allows observers to recognize tubercular contagion between husbands and wives, and between the sick and their attendants, but not between members of the same family. The replies received by the Collective Investigation Committee illustrate this, as out of the reported observations, no less than 158 instances are given of supposed infection between husband and wife. The spread of disease from tubercular human subjects to dogs (which are difficult to infect with tuberculosis) illustrates well the contagiousness. The late M. Thuon, of Nice,¹ infected sputa of consumptives, mixed with water as a spray, daily for an hour for several weeks, into the kennels of dogs, all of which developed pulmonary tuberculosis, and Dr. Csoker, of Vienna² records a case of tuberculosis in a dog whose master had died of tuberculosis some time before. The results of a very important series of experiments have lately been published by Dr. Cornet.³ He examined the dust taken from the walls of hospital wards, asylums, prisons, and private houses where phthisical patients had been. The dust was removed by a moist sponge from near the patient's bed, but from a part which could not have been soiled directly by expectoration, or contact with dirty fingers. The dust was introduced into the bodies of guinea pigs in order to test its infectiveness; 147 specimens of dust from 133 localities, and 302 guinea pigs were used in the experiments. Of the guinea pigs, 196, or exactly half died of acute infec-

¹ Ap. H. Bennett, M.D., *Brit. Med. Jour.*, p. 387, I., 1889.

² *Med. Press and Circular*, p. 260, I., 1889.

³ *Die Verbreitung der Tuberkel bacillus Ausserhalb des Korpen von Dr. George Cornet.*

tion other than tuberculosis. Of those that did not die of more acute affections, the following percentages died of tuberculosis:—47·6 per cent. of those inoculated with hospital dust, 17·6 per cent. of those inoculated with asylum dust, and 43·6 per cent. of those inoculated with dust from private houses. Dr. Cornet considers that the expectoration is the source of contagion, that whilst moist it is comparatively harmless as of course bacilli cannot evaporate, but that when the excretion is dried, and becomes pulverized the danger of contagion is great.

This is Koch's¹ opinion also; he says "A phthisical patient is bound, under the circumstances in which these patients are at present generally found, to scatter around him a large quantity of infective material, and that in the form most likely to give rise to infection."

Fisher and Schill's² experiments throw light upon this, showing as they do that tubercle-bacilli may retain their virulence for forty-three days in putrefying sputum, and for 186 days in sputum dried at the ordinary temperature of the air.

The best proof of this power of contagion is the effect of ingestion of tuberculous matter by dogs, as they are not (like rabbits and guinea pigs) predisposed to tuberculosis, but rather antagonistic to it.

A further advance was made when the possibility was recognized of milk from tubercular udders causing tuberculosis. A great many observers have testified to this, and Bang at the International Medical Congress, Copenhagen, stated that he had examined the milk from twenty-seven cows suffering from tubercular mammitis, and had found the specific bacilli in the milk or sediment, and produced the disease by inoculation or ingestion of the milk or sediment.

On July 9th, 1888, Dr. G. Sims Wood-

head laid the results of his researches before the Grocers' Company. Having alluded to the fact that tubercular mammitis was of extreme rarity in the human female, Dr. Woodhead showed that it was of comparatively common occurrence in the cow. Out of over 600 cows Dr. Woodhead and Prof. McFadyean examined in the Edinburgh dairies they found 37 in which there was mammitis; in the milk of six of these they found tubercle-bacilli. In one of these and subsequently in five other cases they found bacilli in enormous quantities in the udder. The new tubercular tissue was disseminated in patches of various sizes throughout a portion of the gland, the new growth invaded the lobules so that a gradual transition from the healthy gland substance to the dense tubercular mass might be seen. In the mass itself the characteristic bacilli were present in almost inconceivable numbers; on careful examination of the gland, especially at the margin of the new growth, ulcerations into the ducts might be made out, and a small mass of tubercular granulations seen projecting into the lumen. In the granulation tissue, in the epithelial cells, and even lying free in the lumen there were frequently numerous bacilli, and it could easily be understood how they found their way into the milk. Bacilli could only be demonstrated in epithelial cells still attached, and also in rare cases in those lying free in the apparently healthy milk ducts. Dr. Woodhead went on to state his opinion that these facts, together with the feeding experiments recorded by so many observers, went far to prove that milk was a source of tubercular infection, especially in young children.

Prof. Bang in a paper read before the Copenhagen Medical Society on Feb. 28th, 1888, goes so far as to state that milk from cattle with pulmonary phthisis contained bacilli, even when the udders were not in any way affected, but Dr. Woodhead's observations on the rapid and insid-

¹ "Micro-Parasites in Diseases—Etiology of Tuberculosis."

² Ap. Koch, loc cit.

ious manner in which the udders become affected when there is tuberculosis elsewhere throw a doubt on this statement.

At a Congress held in Paris last year, the danger of the communication of tubercular disease from cows to human beings was fully recognized and an important resolution carried in the following sense:—"That every means, including the compensation of owners, should be taken to bring about the general application of the principle that all meat derived from tubercular animals, whatever the gravity of the specific lesions, should be seized and totally destroyed.

Two other important resolutions were passed by the same Congress. One recommending that dairies, etc., should be inspected to ascertain that the cows are not suffering from contagious diseases (including tuberculosis) capable of being communicated to man; the other recommending that the public should be instructed in simple means of avoiding the danger incurred by using the flesh of tubercular animals, and in proper methods of disinfecting the excreta of phthisical patients and objects contaminated by them.

The contagiousness of tubercular disease explains a great many things, the full significance of which did not before appear. For instance, it has been for long recognized that over-crowding and the re-breathing of respired air was a fruitful cause of pulmonary phthisis. In the Report of the Health of Towns' Commission, 1844, and the Army Sanitary Commission, 1858, this is clearly recognized. The latter gives the following amongst other pertinent statistics:—the Foot Guards with a cubic space per man of 331 feet had phthisis mortality of 13·8 per 1,000, whilst the Horse Guards with cubic space of 572 feet had a mortality of 7·3, or in other words, with less than double cubic space, had very little more than half the death-rate.

Contagion explains also to some extent,

how tubercular disease is so likely to spread in families without having to accept heredity as such an important factor as it is generally considered. Some statistics lately published by C. Theodore Williams, M.D.,¹ are of interest in this connection.

Dealing with the improvement in tuberculosis resulting from residence in high altitudes, he gives the following table:—

	Whole no. of cases. per cent.	Cases with family predisposition. per cent.
Cured, greatly improved.....	82·25	82·25
Deteriorated....	17·02	16·12

As the improvement is just as well marked in those with a hereditary taint as in those without, it seems probable that the danger arises not from heredity as formerly understood, but from the low resistance of the weakened tissues of the offspring of consumptives, and by contagion from the consumptive to his or her offspring. A possible result of the latter may be seen in family predisposition being more common amongst women than men in the proportion of 57 to 43.² This may partly be accounted for by contagion, female children staying more at home and being more the subject of kissing.

Another phenomenon that the contagiousness of phthisis throws light upon is that those whose family history is clear and who show no predisposition to tuberculosis are often attacked when they have been for a long time in a debilitated condition. So in text books, miscarriages, unfavorable confinements, over-lactation, etc., are named as predisposing causes. From a state medicine, as well as from a medical, point of view it is very important to recognize that tuberculosis is contagious, and that this contagion can take place in several ways:—by auto-infection, by direct contagion from lower animals, by direct contagion from the human subject, and by indirect contagion through fomites.

¹ "Medico-Chirurgical Transactions," vol. lxxxii, p. 325.

² "Quain's Dictionary," art. Phthisis.

The possibility of auto-infection is chiefly interesting from a medical point of view, but it gives a useful hint for treatment by antiseptics, destruction of excretæ, etc., and unlimited fresh air so as to reduce the danger of re-breathing air to its lowest possible limits. It also explains some remarkable cases. I remember the late Dr. B. G. Macdowel relating the case of a young man who had advanced phthisis pulmonalis with cavities. His case was considered hopeless and, despair making him reckless, he gave up all treatment, went to the West of Ireland, spent his days shooting over the mountains, taking no precautions against cold, wet, or over-fatigue. The result was he improved and practically recovered, living for many years afterwards.

Another somewhat similar case was published two years ago by Dr. Neal;¹ the treatment, however, was carried out under medical supervision. The patient was kept warm, fresh air was freely admitted, the windows and doors being thrown open, and antiseptic inhalations were used. The result was satisfactory, the patient rapidly improving.

These seem to have been examples of desperate struggles between cells and bacteria, in which all was staked on a single throw, and in which the cells won by cutting off the bacteria from their base of supplies. The stoppage of contagion from animals is clearly in the province of State Medicine, and this has already been recognized by some States. In France the President of the Republic last year signed a decree providing *inter alia* that every cow found to be suffering from tuberculosis shall be isolated, and that the Sanitary Inspector shall be present when it is slaughtered, and make a report on the post-mortem appearances. The meat shall be condemned if tubercular lesions are generalized. The sale of the milk of tuber-

cular cows is absolutely prohibited, and it can only be used for feeding animals after it is boiled.

In Copenhagen the Milk Supply Company have been advised to order a fortnightly examination by a veterinary surgeon of all cows supplying milk to the Company: this examination to include a most careful search for tubercular udders. In the United Kingdom we are sadly behind. The Decree of the French Government might well be taken as a model. The recommendations of the French Congress as to dairies ought also to be adopted. The latter is very important in Dublin. With nearly four hundred dairy yards scattered through the city, frequently in a filthy condition, as graphically described by Dr. C. F. Moore in a paper read before this section,¹ as sanitarians we ought not to rest satisfied until all dairy yards are removed outside the city. The third means by which tuberculosis spreads, this is from person to person, either directly or indirectly, is also of great importance. In a paper read by the Registrar-General before this section² an apparent spreading of tuberculosis from crowded centres to the surrounding districts is shown. On comparing the maps of the distribution of phthisis and of bronchitis it is seen that the death-rate from bronchitis is high in Dublin and Belfast, but that the high rates scarcely spread into the districts around: whilst the phthisis high death-rate does spread into the surrounding districts. One special factor in this case is probably contagion. The young go to service in towns, become reduced in resisting power, fall ill of phthisis, return home and are shut up in small houses where they rapidly get worse and give the disease to other members of the family. As the Registrar-General pointed out small houses *per se* are not the cause, for in Ireland inferior

¹ *British Medical Journal*, 1886, vol. ii. pp. 1068.

¹ "Transactions" Academy of Medicine, 1886,

² "Transactions," Academy of Medicine, 1887.

house accommodation and slight prevalence of phthisis are nearly parallel, not as cause and effect but because rural life coincides with both low phthisis rate and defective nursing. The prevalence of phthisis in the rural districts surrounding large cities is therefore a noteworthy fact.

Dr. Flick¹ in a recent paper gives some interesting instances of countries where phthisis was unknown until introduced by immigrants. He alludes to the way in which in cities cases of the disease occur clustered around a moving focus.

An interesting case showing the danger of contagion to those predisposed to the disease is mentioned by Dr. Williams² though not with the object of illustrating this point. A young lady "with disease at the left apex, who passed one winter at Davos, lost apparently all symptoms, and nearly all signs of disease in her chest. She then married a gentleman far advanced in consumption and went to Colorado and New Mexico, where he succumbed. During his illness he was nursed entirely by her. She returned to England in the following spring with cavities in both lungs, and with intestinal ulceration, and she died in the autumn."

Dr. Henry Bennett records the case³ of an English officer of 27, a model of health and strength, with perfect family antecedents, no phthisis or other known taint existing. He came home from New Zealand with a young wife in an advanced state of consumption. They occupied a small cabin, the windows of which were seldom or never opened during her lifetime. The voyage lasted four months and she died three weeks before the ship arrived. A few weeks after his arrival in England he developed symptoms of phthisis, and died a year or two afterwards.

¹ "The Contagiousness of Phthisis." By Laurence F. Flick, M.D.

² Medico-Chirurgical "Transactions," vol. 81, p. 315.

³ *British Medical Journal* 1889, I., p. 387.

Dr. Bennett also says, "My memory recalls several cases where consumption has appeared to be thus conveyed from husband to wife, from wife to husband, from mother to child and *vice versa*."

In connection with this a possible danger of health resorts may be pointed out. Dr. Jacoby has found tubercle bacilli in the air of an hotel in Nice in July.

Against the spread of tuberculosis sanitary science can do much. The disease should be recognized as contagious, and those affected with consumption should not be allowed to imperil the health of others. G. R. MacMullen, LL.D.,¹ suggests that steamboat companies should adopt the following rules:—

1. Intending passengers should on booking produce to the booking agent a medical certificate stating that the intending passenger is in good health, or, if not so, the nature of his or her ailment.

2. The medical officer in charge of the ship should have power to remove a passenger into the ship's hospital, which in view of such contingency, would be properly fitted for the reception of patients.

Then precautions should be taken not to treat tubercular cases in the wards with other cases, and the nurses in charge of such cases should from time to time be changed to other duties. All sputa and other excretions should be disinfected and destroyed. The bodies of animals and of human beings dying of tuberculosis should, when possible, be cremated. The non-tubercular members of the so-called "consumptive families" should be separated from those already affected. These measures, together with those recommended to check the spread of the disease from other animals, taken in conjunction with the other efforts of modern sanitation ought to do much towards checking the spread of tuberculosis by contagion.

¹ *Australian Medical Gazette* Nov. 1888.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN.

SURGICAL DIAGNOSIS BY THE TEETH.

Abstract of paper read by JONATHAN HUTCHINSON, F.R.C.S.

Referring to *Pyorrhoea Alveolaris* (Riggs' Disease), a condition in which the gums recede and non-carious teeth are shed, the author pointed out that an analogous disease—sycosis—affects the hairs, in which a suppurative inflammation attacks the hair follicles and causes the hairs to drop out. Similarly the nails are in rare cases thrown off by reason of sycosis affecting their matrices. Sycosis of the beard, of the eyelashes (misnamed *tinea tarsi*, since no cryptogam exists), one and all have a similar pathogenesis, viz., a contagious inflammatory suppuration, the pus being carried from hair to hair and exciting fresh foci of suppuration. Although often occurring in weakly subjects, it was not necessarily confined to these; indeed, he regarded these forms of sycosis as local, and not constitutional conditions. The treatment seemed to lend color to this theory, for while tonics and general remedies did not ameliorate the disease, local epilation never failed. Comparing sycosis with *pyorrhoea alveolaris*, the lecturer insisted that the local inflammatory theory explained all the conditions. The purulent depots at the gum margins of the teeth infected one the other, and so the disease rapidly spread.

Materials used for Stopping Teeth.—Without for a moment disparaging the value of amalgams as a stopping material, Mr. Hutchinson believed that in some rare instances they were the cause of intractable and irritable sores upon the lips, gums, and cheeks. He spoke simply as an observer, not knowing the chemical composition of these stoppings, many of which, he was told, were secret preparations; but he had certainly seen ulcers which refused to yield to treatment disappear after the

removal of discolored amalgams. He had always been careful to eliminate the probability of roughness of the stopped teeth being the cause, and had never seen ulcers where gold fillings had been employed. He quoted a case of an American physician who presented a number of ulcers which several surgeons had pronounced syphilitic; the patient, however, stoutly maintained that he had never had syphilis or a symptom of it, and all his children were perfectly healthy. Mr. Hutchinson, finding that he had several amalgam fillings, which had been inserted some years before in America, ordered their removal, which, being done, the ulcers rapidly disappeared.

Syphilitic Teeth.—Mr. Hutchinson said he had little new to say on this subject. The notched incisors were now generally admitted as evidence of hereditary syphilis. The upper centrals are the *test* teeth, and in no single instance had they misled the lecturer; but the markings on other teeth might be misleading, as they were often caused by the mercury given as a remedy for the syphilis, and were not due to the syphilis itself. In the great majority of cases of hereditary syphilis the markings on the central incisors are present, but not always so. Of several members of the same family one or two might have the characteristic teeth, while the others escaped. He wished to draw attention to two points of clinical observation. (1) In all cases where interstitial keratitis occurs there are found malformed teeth, and those who have the *test* teeth characteristically marked have suffered from interstitial keratitis; (2) children who show signs of hereditary syphilis in the shape of phagedænic affections of the throat have no peculiarity of the teeth, and do not have interstitial keratitis.

The teeth affected by stomatitis, whether mercurial or other, were often mistaken for syphilitic teeth. Mercury given in infancy set up inflammation of the tooth

sacs, and so led to deformity of the enamel. The test teeth in these cases are the first permanent molars, which might be compared with the premolars. Lamellar cataract, so commonly associated with stomatitic teeth, was due to convulsions. In adult life the presence of mercurial teeth was an assistance. Often the smallest dose of mercury would in these cases produce salivation, and the teeth revealing the idiosyncrasy would warn against its incautious use. The correlation of dental defects with errors in other structures had been brought before the Society by Mr. Moon. Rat-like teeth were due to suppression of lateral denticles, and were often associated with micro-ophthalmos and deficiency in hair. Skin defects, however, are not always accompanied by tooth lesions. Referring to dentition in rickets, Mr. Hutchinson deprecated speaking of any definite rachitic teeth; the disease attacked the teeth as it did other structures.

The value of considering the teeth lay in answering the question, not, are the teeth present, but rather how and why did the teeth go? Some constitutional conditions would affect this, or in some cases local disease, as in pyorrhea alveolaris. Again, tartar causing gum absorption often ran in families. In some cases it was due to excessive salivary secretion. The lecturer did not consider gout, as such, produced any typical teeth. As long ago as Graves, tooth grinding had been shown to be common among the gouty, and this practice led to wearing down the teeth.—*Medical Press.*

ACADEMIE DE MEDECINE.

ANTIPIRYN IN GLYCOSURIA.

At the last meeting of the Académie de Médecine a discussion on the action of antipyrin in glycosuria occurred. M. PANAS related two cases which he considered important. The first was that of a man of 38, who was affected with bilateral cataract

for two years previously, excreted in the twenty-four hours over an ounce and a half of sugar. Finding that little or no relief was given him at his own home, he entered the hospital, and placed himself under the care of M. Panas. A rigorous dietetic treatment was immediately adopted, with the effect that the quantity of sugar diminished to half an ounce, but that amount persisted, in spite of all treatment. The patient consented to the removal of one of his cataracts; M. Panas decided to operate. The result was a perfect success, in spite of the persistent glycosuria. He then left the hospital for some time, and returned at the beginning of the present year. His urine then contained nearly two ounces of sugar in the twenty-four hours. The usual *regime* for diabetes was ordered, and in a few days the quantity of sugar fell to one ounce. After trying iodide of sodium, bromide of potassium without effect, M. Panas ordered three grammes of antipyrin a day, and in a week no trace of sugar was found, although the patient had eaten ordinary bread. The second cataract was removed, and when the man left the hospital one drachm of sugar was found, but he had two days previously been left without the antipyrin. The second case was that of a woman, aged 73, diabetic for six years. She had also double cataract, and the quantity of sugar was but little inferior to that of the first case. The administration of three grammes of antipyrin daily reduced it to sixty grains, and finally to twelve grains. In conclusion he said that he considered antipyrin to have a very prompt antiglycogenic action, that it succeeds where all other treatment failed, and that the dose should be twenty grains three times a day.

M. G. SEE said that he treated eighteen patients by antipyrin, and his experience was that where the sugar did not exceed in quantity three ounces in the twenty-four hours that drug effected frequently a complete cure. Not only does the thirst, poly-

uria, glycosuria, etc., disappear, but also the different nervous and cutaneous troubles.

M. DUJARDIN said that fully a year ago he had the good effects of antipyrin.

M. ROBIN said that for eighteen months he treated diabetes by antipyrin, and he found that it acted with energy on glycosuria, but he did not meet with one case of complete cure. As to the method of administering it, he thought it would be well to associate with it a little bicarbonate of soda, and not to continue it longer than ten or twelve days, as its constant use would likely produce albuminuria.

MEDICAL SOCIETY OF BERLIN.

PROPHYLAXIS OF TUBERCULOSIS.

This subject was presented by DR. CORNET. Cornet was specially qualified for an address on such a subject. He has for the last two years been studying experimentally in Professor R. Koch's Hygienic Institute, with a view of determining the behavior of the tubercle bacillus both within and without the body. The speaker discussed the doctrine that led to the false conclusion that certain people had an immunity against it. It was shown that the air was the chief carrier of the virus. All tubercle bacilli, however, had their origin in the bodies of animals or men, and here was the starting point of the prophylaxis of phthisis, and as the bacillus could not be destroyed within the body the aim should be to render it innocuous the moment it left it. Fæces and urine of phthisical patients sometimes contained bacilli, but no danger arose from them, as the rapidly growing bacteria of decomposition quickly destroyed them. An infection of the intestinal tract could, however, be caused by the milk or flesh of tuberculous animals as was shown in the case of children. The great source of the infection, however, was the phthisical individual himself when the affection was in the lungs.

Here also there was an incorrect notion that the virus was contained in the breath itself. He believes that such is not the case, for, according to the investigations of Nägeli, tubercle bacilli are never found in the expired breath of phthisical patients. The danger lies in the sputum alone, and then only when it becomes dried, pulverized, and caught up as dust into the air. Sputum is not easily pulverized, however, and moreover there are protective arrangements for preventing the ingress of such virus in the nasal passages and the respiratory tracts, where the bacilli are caught and sent back to the outer air by the ciliated epithelium of the air passages. The sputum is most dangerous when expectorated on to the ground, or into a handkerchief, as then the conversion of it into dust is most favored. In his numerous investigations in hospitals and private dwellings where the sputum was ejected on to the floor or into handkerchiefs, he always found virulent bacilli in the air or on the walls whilst they were constantly absent where expectorations took place into proper vessels. It was no wonder, therefore, that those belonging to consumptive patients, and especially the children of consumptive mothers, suffered so much from the disease. As regards prophylaxis, it is first of all requisite that, whether tuberculous or not, every one expectorating in a closed space should do so in a proper vessel, and phthisical patients should be taught always to expectorate in a vessel, never on the floor or in a handkerchief. Spitting-cups might be quite safely emptied into the closets, and they only require a little water at the bottom to prevent drying. In case of death the walls of the chamber should be rubbed down with freshly-baked bread, the floor washed, the bed and clothing disinfected in super-heated steam. Generally speaking it was advisable to rub down the walls with bread on any change of residence. Consumptive patients should be separated from others in general hospitals. By fol-

lowing out the principles of prophylaxis he had mentioned, he expected considerable diminution in the ravages from that disease.

In the discussion that followed, Dr. B. FRANKEL pointed out that some portion of the sputum containing bacilli would often be retained in the saliva of a phthisical patient; that was an old observation. He related the case of a healthy young clerk being engaged in an office with a consumptive principal. Both worked at the same desk, and both were in the habit of nibbling their penholders. After a time the clerk took ill of tuberculosis and died, after he had in his turn infected his healthy mother.

Dr. Cornet pointed out, in reply, from statistics compiled by himself, that 63 per cent. of nurses fall victims to tuberculosis. A healthy girl devoting herself to this calling died 21 years before the other population, and this difference in the mortality was entirely due to the increased amount of phthisis. He remarked further that in orphanages where strict prophylaxis was followed, tuberculosis was kept away, although the children might be the offspring of phthisical parents. In the orphanage at Nürnberg, where there were 400 children, mostly of tuberculous parentage, only two or three died of phthisis in the course of eight years. In hospitals the time of greatest danger was that of dusting and cleaning up.

BOOK REVIEWS.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS.

Volume one, numbers one and two, January and February.

The first number for January contains

The Pedigree of Disease, by Jonathan Hutchinson, F.R.S.;

Common Diseases of the Skin, by Robert M. Simon, M.D.;

Varieties and Treatment of Bronchitis, by Dr. Ferrand.

The second number, for February, contains

Gonorrhæal Infection in Women, by William Jap Sinclair, M.A., M.D.;

On Giddiness, by Thomas Grainger Stewart, M.D.;
Albuminuria in Bright's Disease, by Dr. Pierre Jeanton.

The subjects chosen for these two numbers are interesting, and the names of some of the authors are so well and so favorably known that one always feels assured that what comes from their pens will be worth reading.

The plan of the publishers, in issuing these shorter works in this form, gives to the subscriber more of a variety in the works furnished during a year than the plan followed in their *Library of Standard Medical Authors*, and at less expense to the purchasers, notwithstanding the difference in the binding. In these days when the profession is flooded with medical literature ranging through a scale all the way from good to bad—with many different shades between those two extremes—it is some relief to the reader to have some one make at least a partial selection for him, and these monographs will, to a certain extent, serve that purpose.

With exception of the binding, these two numbers have been issued in better shape than were the numbers in the preceding years covering the issue of the Standard Medical Authors.

AMERICAN RESORTS, WITH NOTES UPON THEIR

CLIMATE. By BUSHBOD W. JAMES, A.M., M.D., Member of the American Association for the Advancement of Science; The American Public Health Association, etc., etc. Intended for invalids and those who desire to preserve good health in a suitable climate. Philadelphia: F. A. Davis. 1889. Octavo. 300 pages, cloth. This work is divided into twelve chapters as follows:

Medical Climatology.

Benefits and Dangers of Health Resorts.

Sea-side Resorts.

Fresh-water Resorts.

Mountain Resorts.

Trips upon Ocean, Lake and River.

Mineral Springs.

Summer Resorts.

Winter Resorts.

Therapeutics.

Mexico and South America.

Translation from "Die Klimate der Erde."

These are followed by extensive bibliography of the subject, and accompanied by a map of both North America and Central America.

The work contains much information on the subject, which will interest those for whose benefit it was especially prepared. If it shall have, as one effect, an influence in awakening some of

the nomadic Americans to the fact of the many advantages which their own country offers to seekers after health and amusement, the book will not have been written in vain. Certainly nature has not only been kind to us but lavish, and if art will but contribute its fair share in embellishing these naturally attractive resorts, and surround more of them with the comforts which modern civilization demands, the annual exodus of Americans to the older and better-known foreign resorts will probably be materially diminished in the near future.

ATLAS OF VENEREAL AND SKIN DISEASES, COMPRISING ORIGINAL ILLUSTRATIONS AND SELECTIONS FROM THE PLATES OF PROF. M. KAPOSI, ETC., WITH ORIGINAL TEXT. BY PRINCE A. MORROW, A.M., M.D., Clinical Professor of Venereal Diseases, etc. New York: Wm. Wood and Co. Fasciculi, Nos. x. xi. and xii.

The last published fasciculi of this valuable and important collection of plates include admirable portraits of such common and rare affections as herpes in all varieties, many of the forms of dermatitis, pemphigus, purpura, eczema, molluscum, acne, and lichen planus. It is difficult to overestimate, from the point of view of the diagnostician, the value of this Atlas. If it had been made up entirely from the cases collected for illustration from the experience of one man, or of a body of men living in one country, it could not possess the worth it now has, representing as it does a truly catholic review of what has been hitherto published in all countries and places. Nor need Americans feel slighted of representation in so goodly a company of medical artists, for not least among the valuable lithographs in color here given are the author's own illustrations of disease. The text is a trustworthy commentary on the subjects presented in the portraits, and is filled with practical hints. The Atlas may be warmly commended to both students and practitioners as an invaluable addition to a medical library.

HANDBOOK OF THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES. BY ARTHUR VAN HARLINGEN, M.D., Professor of Diseases of the Skin in the Philadelphia Polyclinic, etc. Second Edition. Enlarged and Revised. Philadelphia: P. Blakiston, Son and Co. 1889. Pp. 410.

The second edition of this valuable little work includes a number of new articles relating chiefly to the rarer affections of the integument; and also numerous original and selected illustrations which greatly enrich its pages. Many of the older chapters bear unmistakable evidences of careful revision. The first edition of the work

greatly commended itself to the student and practitioner by reason of the exceedingly practical character of its recommendations for treatment: and it has evidently been the author's aim to fully sustain this reputation in the quality of its second edition. The book may be warmly commended to those who have need of a compendious hand-book of cutaneous medicine: and is easily first of the smaller and less pretentious of these works. Its author is well known as a competent and judicious contributor to the dermatological literature of this country. To those who have had a practical acquaintance with the pages of the first edition, it will be superfluous to commend this its successor, which has all the merits of the first and the advantages over it of a conscientious revision and enrichment.

THE PSYCHIC LIFE OF MICRO-ORGANISMS.—A Study in Experimental Psychology. By ALFRED BINET. Translated from the French by Thomas McCormack, with a preface by the author written especially for the American edition. Chicago: 1889. The Open Court Publishing Company. Cloth, 75 cents. Paper, 50 cents:

M. Alfred Binet, the collaborator of Ribot and Féré, and one of the most eminent representatives of the French School of Psychology, has presented in the above work the most important results of recent investigations into the world of Micro-Organisms. The subject is a branch of comparative psychology little known, as the data of this department of natural science lie scattered for the most part in isolated reports and publications, and no attempt has hitherto been made to collate and present them in a systematized form.

The cuts, eighteen in number, are illustrative of the movements, nutrition, digestion, nuclear phenomena, and fecundation of Proto-Organisms.

The most interesting chapters are those on fecundation, which demonstrate the same instincts and vital powers to exist in spermatozooids as are found in animals of higher organization.

A MANUAL OF INSTRUCTION IN THE PRINCIPLES OF PROMPT AID TO THE INJURED, Designed for Military and Civil Use. By ALVAH H. DOTY, M.D., Major and Surgeon, Ninth Regiment N. S. G. N. Y.: Attending Surgeon to Bellevue Hospital Dispensary, New York. New York: D. Appleton and Company. Chicago: A. C. McClurg and Company. Pp. xxiii. and 224.

The design of this little manual is to instruct those who are desirous of knowing what course

to pursue in emergencies, in order that the sick or injured may be temporarily relieved, and the design has been well carried out. Like other books of the kind, it would serve a good purpose if more of those for whom the work was prepared would profit by its teachings—and early enough to know, when the emergency arises, what should be done, before proper medical or surgical aid can be obtained. It is seldom that non-professional persons acquaint themselves sufficiently with the requirements of such emergencies, before their occurrence, and for this reason many of the efforts made to so enlighten them that they can act intelligently and promptly fail to accomplish that object.

This work has been carefully prepared, and it is exceptionally well illustrated.

THE PATHOLOGY, CLINICAL HISTORY AND DIAGNOSIS OF AFFECTIONS OF THE MEDIASTINUM, other than those of the Heart and Aorta, with tables giving the clinical history of five hundred and twenty cases. Being an Essay to which was awarded the Fothergillian Medal of the Medical Society of London, March, 1888. By HOBART AMORY HARE, B. Sc., M.D., etc., etc. Pp. 150. 1889. Philadelphia: P. Blakiston, Son & Co. Chicago: W. T. Keener.

Prior to the preparation of this essay, it is stated, but fifty-three references of cases of affections of the mediastinum had been collected by any one person, which is a surprising statement, especially when it is realized that the author of this essay has collected almost ten times that number, including:

134	Cases of Mediastinal cancer.
98	" " " sarcoma.
115	" " " abscess.
16	" " non-suppurative inflammation.
21	" " Lymphoma of the mediastinum,
7	" " Fibroma " "
6	" " Hæmatoma " "
11	" " Dermoid cyst " "
8	" " Hydatid " " " and
104	" " various Mediastinal diseases.

After giving tables classifying these different affections, and giving their clinical history, a brief summary of conclusions is given, as follows:

1. Cancer is more frequently found in the mediastinal spaces than any other morbid process.
2. Abscess is the morbid process next in frequency of occurrence.
3. Sarcoma occupies a third position as to frequency.
4. Lymphomata and Lymphadenomata occupy a fourth place, but are much more rare than the others mentioned.

5. The Anterior Mediastinum is affected far more frequently than the other two spaces.
6. Most Mediastinal growths occur in adults.
7. More males are affected than females by mediastinal disease, be that disease what it may.
8. Cancer and sarcoma of this space are necessarily fatal.
9. Abscess is recovered from in about 40 per cent. of the cases.

Six plates accompany the essay, giving views of some of these pathological conditions.

The result of the essayist's labor will be to make the profession more familiar with this subject, and to appreciate more fully how little attention it has heretofore received.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume Sixth. Edited by J. EWING MEARS, M.D., recorder of the Association. Printed for the Association and for sale by P. Blakiston, Son & Co., Philadelphia. Pp. xxvii and 572. 1888.

The volume embraces a list of the officers of the Association for the year; a list of the Presidents of the Association from the time of its institution; the names, and official positions, of the Fellows of the Association, and Honorary Fellows, and a necrological report for the year.

The scientific work of the Association, which embraces so many of the representative general surgeons of the United States, is such as would be expected from the active workers in the profession. Many of the papers have already been presented so fully to the profession, since the last meeting of the Association, as to be quite familiar, and not to call for any extended notice of them here.

A COMPENDIUM OF DENTISTRY, for the use of Students and Practitioners. By JUL. PARREIDT, Dental Surgeon to the Surgical Clinic of The Institute of the University of Leipzig, etc. Authorized translation by LOUIS OTTOFF, D.D.S., etc., etc. With Notes and Additions by G. V. BLACK, M.D., D.D.S., etc., etc. With numerous Illustrations. Pp. ix and 229. Chicago: W. T. Keener.

Whilst this work is especially interesting to dentists, it is not wanting in interest or usefulness to physicians. Aside from the beauty of good teeth, and their great value in distinct articulation, the important part which they perform in the complicated process of digestion has had too little practical recognition. The simple mechanical work of the dentist has too often been given such prominence as to have led to the overlooking of the importance anatomically, physiologi-

cally and pathologically, of the teeth. The connecting link between the mechanical dentist on the one hand, and the physician on the other, has probably not until recently been sufficiently recognized. Works such as this have a tendency to give prominence to the fact that dentistry, in the best sense of that term, is more than a mechanical trade, and show how a liberal medical education best fits the dentist for his calling, and, having thus been educated, he is entitled to recognition as a specialist in the field of medicine.

This work can be commended alike to the mechanical dentist, the dental specialist, and the physician. The publisher has issued it in a form worthy of so deserving a work.

THE YEAR-BOOK OF TREATMENT. Philadelphia: Lea Brothers & Co. Chicago: A. C. McClurg & Co. Pp 344. 1889.

The preface to the book gives its object so fully that those not already familiar with its scope can ascertain it from that preface reproduced herewith: "The object of this book is to present to the practitioner not only a complete account of all the more important advances made in the Treatment of Disease, but to furnish also a review of the same by competent authorities.

"Each department of practice has been fully and concisely treated, and care has been taken to include such recent pathological and clinical work as bears directly upon Treatment.

"The medical literature of all countries has been placed under contribution, and the work deals with all the more important matters relating to Treatment that have been published during the year ending September 30th, 1888.

"A full reference has been given to every article noticed."

TEXT-BOOK OF MEDICAL JURISPRUDENCE AND TOXICOLOGY. By JOHN J. REESE, M.D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc., etc. Second Edition. Revised and Enlarged. Philadelphia: P. Blakiston, Son & Co. Chicago: W. T. Keener. Pp. xvi and 646. 1888.

The first edition of this work, which appeared about five years ago, has become familiar to the profession, and it only remains to note the fact that this edition has been carefully revised and some new matter added, including the subjects of Blood Stains, Suffocation, Ptomaines, Malpractice, and Toxicology. Whilst the first object of the book is to meet the requirements of students of Legal Medicine it will still be found useful and interesting to others.

In preparing this edition the author has sought to bring it up to the literature of the day, and

his effort has not been unsuccessful. The publishers have issued it in good shape—worthy of so good a book.

RECTAL AND ANAL SURGERY, with Description of the Secret Methods of the Itinerant Specialists, by EDMUND ANDREWS, M.D., LL.D., and EDWARD WYLLYS ANDREWS, A.M., M.D., Professors of Clinical Surgery in Chicago Medical College, etc., etc. Second Edition, Revised and Enlarged, with Illustrations and Formulary. Chicago: W. T. Keener. pp. xiv. and 140. 1889.

When the first edition of this work appeared, so recently, so full a review of it was given in this journal, that it remains only to draw attention to the fact that a second edition has so soon been called for, and that the authors have taken advantage of the opportunity to improve upon the first edition by re-writing and enlarging much of the book. Several new chapters and an appendix have been added, and the number of illustrative cuts has been increased. In many respects this edition will be found to be an improvement on its predecessor. The mechanical execution of the work is creditable to the publisher.

SAINT BARTHOLOMEW'S HOSPITAL REPORT.

Edited by W. S. CHURCH, M.D., and W. J. WALSHAM, F. R. C. S. Vol. xxiv. London: Smith, Elder & Co. Pp. xxii and 448. 1888. With Supplement giving Statistical Tables of the Patents under Treatment during the year 1887.

The volume contains twenty-nine articles on as many different subjects, with a list of specimens added to the Museum; Donations to the hospital library; List of Scholarships and Prizes; List of Prize-men; Hospital Staff, and a List of Subscribers to the hospital fund.

The text of the report is liberally illustrated, and the illustrations are fairly well executed.

The volume is fully up to the high standard of its predecessors, which have become so well known to the profession, and so justly esteemed.

A REFERENCE HAND-BOOK OF THE MEDICAL SCIENCES—Volume VII. Edited by ALBERT H. BUCK, M.D. New York: William Wood & Company.

This excellent work has been made familiar to the medical profession by the six volumes that have preceded this one, which begins with Ter., and ends with Wor. Its main characteristics are similar to those of the other six volumes, including the illustrations which are quite numerous. The work reflects much credit on the editor and the publishers.

LECTURES ON THE ERRORS OF REFRACTION AND THEIR CORRECTION WITH GLASSES, Delivered at the New York Post-Graduate Medical School, with illustrative cases, etc. By FRANCIS VALK, M.D., Lecturer on The Diseases of The Eye, New York Post-Graduate Medical School, etc., etc. New York and London: G. P. Putnam's Sons. Chicago: W. T. Keener. 1889.

The work embraces eleven lectures, covering the anatomy of the eye—Refraction, Emmetropia, Hypermetropia, Myopia, Ophthalmoscopy, Muscular Asthenopia, Astigmatism, Retinoscopy, Presbyopia, and concludes with histories of illustrative cases, and specimens of Snellen's Test-types.

It is liberally illustrated with fairly good woodcuts. It is printed on good paper, in clear type.

THE STUDENT'S TEXT-BOOK OF THE PRACTICE OF MEDICINE. By ANGEL MONEY, M.D., London, Assistant Physician to University College Hospital, etc., etc. London: H. K. Lewis. pp. xiv. 458.

The author of this little volume says, in his preface, that "To give a right conception of disease and its treatment has been more the writer's aim than to state all that has been written about it." That aim, as all will admit, is a commendable one, and perhaps the author has succeeded as well as could be expected, in so limited a space.

It is divided into fifteen chapters; has a *Therapeutic Index*; a general index, and a list of the author's published writings.

MISCELLANY.

The Johns Hopkins Hospital of Baltimore.

—The Johns Hopkins Hospital will be formally opened May 7. The grounds of the Hospital include four entire blocks, containing about fourteen acres of ground, having a frontage on Broadway of 709 feet and extending back 856 feet. The buildings are seventeen in number and cover over four acres, and have been building about thirteen years, and are the result of the generosity of the late Johns Hopkins. The endowment is over \$3,000,000, invested in securities. Only the income has been used in the construction of the buildings. With the exception of the Laundry, Autopsy Building, Chapel and Green-house, all the buildings, which are

of brick with trimmings of dark blue stone, are connected by covered corridors one story high. The top of the corridor forms an open terrace-walk on a level with the ward floors. The objects of the hospital are: The proper care of the indigent sick; the education of trained nurses and of physicians; the promotion of discovery in medical science and the promulgation of the same for the benefit of the public. The outdoor relief will tend to popularize the hospital.

The medical school will not be a part of the hospital, but the students of this department will receive their practical experience in the hospital.

THE GENERAL PLAN.

The cottage plan adopted, with commodious arrangements, large, airy apartments given up to the sick, with an adequate supply of nurses, and of medical and surgical skill, shows a smaller average mortality than the more crowded ward system. The great objection made against placing one ward above the other is based on the increased facility for the transmission of foul air from one floor to another, and the impossibility of giving as good ventilation to the lower as to the upper floors. The plan adopted in constructing this hospital is, to have but one floor in a pavilion devoted to ward uses.

The pavilions have a basement nine feet high, raised above ground, laid with a granolithic flooring, containing only the heating and ventilating apparatus, and connected directly with a closed corridor ten feet wide, which communicates directly with all except two buildings, the dead-house and laundry. With the exception of the pay wards, none of the pavilions can be entered from the closed corridor except by first passing through the open air. All the floors on which the sick wards are situated communicate directly with a long, flat terraced roof on the top of the corridors, surrounded by railings, which serves for exercise of the patients

and their general communication in fair weather, and likewise affords a free circulation of air all around the wards left unobstructed on what is termed the first floor of the system.

Each patient in the hospital is to have 100 feet of floor space, thus providing ample breathing space, and avoiding dangers common to hospitals. Not more than 400 sick persons are to be accommodated at any one time in the institution.

The common wards are rectangular in form, ninety-one feet long by thirty-two feet broad, with twelve beds arranged on either side of its length, at least one window being placed between each two. In the octagonal ward the beds are placed at exactly equal distances from each other and from the fireplaces and ventilators. A large ventilating shaft occupies the center of the room. Each of the two octagonal wards has two stories.

The isolating ward is for the treatment of patients suffering from contagious diseases. Each person is assigned a separate apartment, whose ventilation is made through an individual shaft.

Heating and ventilation are inseparably connected in making plans for hospitals. The open fireplace here has a conspicuous place in all the buildings where a room occupied by not more than two persons is to be heated.

An electrical device called a "telemeter" is to be placed in the medical director's room in the Administration Building, by which he can see at a glance the temperature of various parts of each ward in the entire hospital, and if the heat be too great or too little he can order its modulation by decreasing or increasing the amount of air in a given switch-damper that is to pass around the coils.

For the removal of the vitiated gases there are several devices employed in the same ward, including, besides the fireplace heaters, a coil of hot-water pipes near the top of the shaft, which creates a constant

upward current of some little velocity from the rooms below. In the central hall of each pavilion there is in addition an enormous shaft for ventilating each entire floor. At night when the products of combustion of the gas jets are to be removed, in the morning when all the wards are to be thoroughly flushed, and in summer that this dead residuum may be removed, ventilators at the top of the room are opened. The pay wards have individual rooms, with all the features of switch-damper ventilation below and above. In the Nurses' Home is exhibited an anemometer to measure the velocity of the current upward into the ventilating shaft, which rapid egress is necessary to replenish the pure air. The attics above the wards have also the best of ventilation.

Throughout all the buildings the pipes for plumbing are exposed, so they can be examined and the source of any difficulty remedied at once. No sewer is allowed to pass directly under any building. The waste water drains directly through pipes into the Harford Run, and fecal matter flows through a large outlet, which is to be frequently flushed with large quantities of fresh water, into an immense well under the Nurses' Home, which is ventilated by a stack one hundred and twenty feet high.

No mouldings are allowed on the furniture or wood-work in any of the buildings lest shrinkage cause cracks.

The baths of the hospital are in an annex where patients who are well enough are induced to go. If unable to leave their beds, a portable bath-tub is brought to the bedside. Turkish, Russian, mercury, vapor, electric, needle, plunge, and other bath-rooms are provided for all who have them prescribed for them. Separate bath buildings are provided for males and females.

The kitchen is three stories high besides the cellar and boiler vaults. The upper story contains dining-rooms for employes and sleeping-rooms for cooks.

The entrance to the kitchen is by the closed corridor. It is on the floor below the sick wards, into which its odors cannot penetrate. All modern conveniences of steam apparatus are provided for cooking, and large hoods for carrying off the vapors to the flues. It is provided that all the garbage and waste must be at once carried out into the open air and dumped into a chute to be carried away. All the viands for the patients are carried in felt boxes, to be kept hot by this simple device, to the wards some distance off. In each ward there is, however, a nurses' kitchen, with steam tables to prepare any simple dish that may be required for an emergency or during the night.

A noticeable feature everywhere is the absence of patients' elevators, for it is believed that more comfort will be insured by raising the sick on stretchers up broad stairs with an easy rise than by subjecting them to the shock of sudden stoppages on the elevator. Fear of the rise of contaminated air through the elevator hatches also assisted in deciding on this feature.

The laundry is a one-story building and completely isolated from the rest of the group, and plays an important part in the institution. Its disagreeable vapors render its complete isolation necessary. Tubs, boilers, rotary washing machines, centrifugal wringing apparatus, and other modern devices for laundering clothes are provided. The disinfecting chamber is in the basement of this building. The roof is flat, and is to be used for sunning the clothes.

THE DEAD-HOUSE.

The autopsy building, near the corner of Monument and Wolf streets, now used by the pathological laboratory of the University, also stands isolated for an obvious good cause. It contains on its first floor an amphitheatre, where fifty students standing, after the plan adopted in Berlin and Strasburg, can view an autopsy. There is also an air-tight morgue-room, a

waiting-room for funerals, and a pathological laboratory, all on the first floor. The upper story contains rooms for histological research and for photomicrography and a small museum. The basement will probably have a small crematorium in which to consume refuse animal matter.

Three more common wards, an octagonal ward and an isolating ward, a chapel and a green-house are yet to be constructed. There will be extensive gardens connected with the hospital.

A Judge's Opinion on the Use of the Title Homœopathist.—Judge George C. Barrett, of the Supreme Court of New York, sends to the *New York Medical Times* an opinion in reply to the question: "Has a physician designating himself an 'homœopathist' and called as such to a patient, any legal or moral right to adopt other than homœopathic means in the treatment of the case?" To this Judge Barrett answers: "I have your note of the 11th inst., asking my opinion upon a question of professional ethics. In my judgment there can be but one answer to your question, and that in the negative. If I call in a medical man who designates himself a 'homœopathic physician,' it is because I do not wish to be treated allopathically, or eclectically, or otherwise than homœopathically. There is an implied understanding between myself and the homœopathist that I shall receive the treatment which, by tradition and a general consensus of opinion, means small doses of a single drug administered upon the principle of *similia similibus curantur*. If there is to be any variation from that method I have a right to be informed of it and to be given an opportunity to decide. Common honesty demands that before a confiding patient is to be drugged with quinine, iron, morphine, or other medicaments, either singly or in combination, he should be told that the 'homœopathist' has failed,

and that relief can only be afforded by a change of system. An honest 'homœopath' who has not succeeded, after doing his best with the appropriate homœopathic remedies administered on homœopathic principles, should undoubtedly try anything else which he believes may save or relieve his patient. But when he reaches that point the duty of taking the patient into his confidence becomes imperative. The patient may refuse to submit to the other system or he may agree, but prefer a physician whose life has been specially devoted to practice under that other system. He may say to the 'homœopathist,' 'You have failed, but I prefer to try another gentleman of your own school, before resorting to a system that I have long since turned my back upon.' Or he may say, 'Well, if homœopathy cannot save me, I prefer to go to headquarters for allopathic treatment.' All this, gentlemen, is the logical sequence of the particular designation 'homœopathist.'"—*Medical Record*, May 4, 1889.

Medical Men and their Remuneration.—

A curious case will shortly come up for trial in a law court in Saxony, the result of which will scarcely fail to be interesting to most practitioners. A medical man was in attendance upon the wife of a rich man in Saxony. The patient was exceedingly ill, and her husband was naturally extremely anxious. For the purpose, as it would seem, of stimulating the best energies of the practitioner, the husband promised, if his wife recovered, to give half his fortune to the doctor. The circumstances were propitious for the patient, and her health became established; in short, a complete cure was effected. This result having occurred to the entire satisfaction of the husband, the latter forwarded in the course of time a large sum of money in requital of the practitioner's services. The doctor, however, refused to accept the sum in question, and claimed as his reward

the moiety of the fortune which had been promised him. The rich man's fortune was equal to £100,000, and although he seems to have agreed to dispose of half of this amount to the medical man in the event of the recovery of his wife, he now refuses to carry out his promise which he had given, and repudiates the claim which is being made upon him.

Thus the aid of the law is about to be sought in order to determine the point in dispute. The case for the doctor will, in all probability, entirely depend upon the legal evidence which he is able to produce of the agreement. It is scarcely to be supposed that any feeling of sentiment will be allowed to influence the result. The rash promises which are made in the presence of medical men, either by patients or their friends, is matter of almost common occurrence, under certain circumstances, while the rapid declension of that feeling which is called gratitude, after the danger is past, is proverbial, as far as the practitioner is concerned. In connection with the case above narrated, the doctor, if successful in securing £50,000, will be able to pride himself upon receiving the largest fee which has ever been paid to a medical man; but, generally speaking, it would require a sanguine person to believe that legally the rich man will be compelled to make good the promise into which he seems rashly to have entered.—*Medical Press*, April 3, 1889.

Aseptic Flogging.—A contemporary relates with apparent glee that flogging is likely to become the punishment of burglars taken with arms in their possession, and probably few people will entertain any unsurmountable objection to this additional infliction, if only *pour encourager les autres*. It is cruel, no doubt, but it is hardly less so to lodge a ball in the abdomen of the trembling householder who takes it into his head to remonstrate with the intruder. Admitting, then, that flogging may act as a

deterrent, and will certainly be a punishment, we would suggest that certain precautions are desirable to prevent casualties not contemplated by the law. Unless the microbial theories are a fraud, the use of a lash steeped in the sanguineous discharge of a fellow-culprit must often be followed by the inoculation of syphilis and perhaps tuberculosis, while if the previous whipping be less recent, erysipelas, tetanus, and a host of septic complications await the victim of judicial punishment. We would suggest, therefore, that since society is "cruel only to be kind," the proper course would be to enforce the observance of antiseptic precautions by sterilizing the lash by immersion in some disinfectant solution, the formulæ for which are legion.—*Exchange.*

New York Cancer Hospital.—The Fourth Annual Report of this hospital, for the year 1888, has just been issued, and makes a very favorable showing. It says: "The experience of the past year has demonstrated still more clearly the marked advantages in hospital construction to which reference was made in the last Annual Report. The circular form of the wards built in towers secures ample light, lessens the work of the nurses, and gives an air of cheerfulness not attainable by any other arrangement, while the perfect ventilation assures a degree of freedom from unpleasant odors that could hardly be expected in such an institution. These special features, together with the architectural beauty of the building, and the careful attention to every detail that can promote the comfort and the recovery of patients, were highly commended by several of the foreign delegates to the Medical Congress at Washington last September—among others by Professor von Esmarch of Germany and Sir Spencer Wells of London."

The Trained Nurse, edited and published in Buffalo, N. Y., has entered upon its

second year. It is "consecrated to those who minister to the sick and suffering in hospital and home," and serves a good purpose in furtherance of the plan of properly educating nurses, and securing just recognition for those thus educated. The cause, and the journal devoted to the advancement of that cause, merit liberal support from the public that derives the most of the benefits resulting from their good work. It is the only journal of its kind in this country. The April number contains articles on "The Relation of Hospitals to Medical Education," "Insanity, its Causes and Cure," "Articles for the Mother's Use," "Health in our Homes," "Asepsis for the Nurse," besides considerable other editorial and original matter. The monthly Hospital Supplement contains the latest hospital news from all parts of the world.

Parkes Triennial Prize.—The prize of one hundred pounds and a gold medal for the best essay "On the Etiology and Prevention of Yellow Fever" has been awarded to Surgeon R. H. Firth, F. R. C. S. Eng., Medical Staff, now doing duty at the Station Hospital, Jullundur, in the Punjab. The subject for the next prize is "The Influence of Soil as a Factor in the Production of Disease, especially in Hot Climates," and the essays must be sent in on or before the 31st day of December, 1891. The competition is open to all medical officers of the Army, Navy, and Indian Services of executive rank on full pay, with the exception of the Assistant Professors of the Army Medical School during their term of office.

Lady Medical Service in India.—Last week the foundation stone of a new Hospital for Women was laid by Lady Lansdowne at Lucknow. The Viceroy, who was present, expressed his strong sympathy with the movement for providing medical aid for women throughout the North-West

of India. It is reported that a native gentleman of Bombay has contributed 10,000 Rs. towards the cost of founding a female medical dispensary in connection with the Grant Hospital. The construction of a laboratory is being proceeded with at the latter city, destined to facilitate scientific and medical investigations and researches.

Cremation in Berlin.—The promoters of cremation in Berlin recently sought permission from the police authorities to cremate all those persons who during life had expressed a wish to be disposed of by fire after death. An order has been made refusing to grant the request.

At a meeting of the Sheffield, England, Medico-Chirurgical Society, Mr. T. Morton showed a shawl pin $2\frac{1}{4}$ inches long which a patient, a woman, had swallowed and passed per anum at the laspe of seventeen days.

American Medical Association.—The Fortieth Annual Meeting of the Association will be held in Newport, Rhode Island, June 25, 1889. The officers for the year 1888-1889, are:

President—W. W. Dawson, M.D., Ohio.
Vice-Presidents—W. L. Schenk, M.D., of Kansas; Frank Woodbury, M.D., of Pennsylvania; H. O. Walker, M.D., of Michigan; J. W. Bailey, M.D., of Georgia.
Treasurer—Richard J. Dunglison, M.D., Pennsylvania. **Permanent Secretary**—Wm. B. Atkinson, M.D., Pennsylvania.
Librarian—C. H. A. Kleinschmidt, M.D., Washington, D. C.

The Trustees of the Journal: J. M. Toner, M.D., Washington, D. C., President; John H. Hollister, M.D., Illinois, Secretary and Treasurer, E. M. Moore, M.D., New York; P. O. Hooper, M.D., Arkansas; L. S. McMurtry, M.D., Kentucky; Alonzo Garcelon, M.D., Maine; Leartus Connor, M.D., Michigan; E. O.

Shakespeare, M.D., Pennsylvania; Wm. T. Briggs, M.D., Tennessee.

The Judicial Council: N. S. Davis, of Illinois; H. Brown of Kentucky; Wm. Brodie, of Michigan; D. J. Roberts, of Tennessee; R. C. Moore, of Nebraska; T. A. Foster, of Maine; Jas. A. Gray, of Georgia; J. H. Murphy, of Minnesota; Jos. M. Toner, of District of Columbia; J. K. Bartlett, of Wisconsin; A. B. Sloan, of Missouri; X. C. Scott, of Ohio; B. McClure, of Iowa; W. A. Phillips, of Kansas; A. M. Pollock, of Tennessee; W. C. Van Bibber, of Indiana; Chas. S. Wood, of New York; J. McF. Gaston, of Georgia; W. H. O. Taylor, of New Jersey; Geo. L. Porter, of Connecticut; J. F. Hibberd, of Indiana.

THE OFFICERS OF THE SECTIONS.

Practice of Medicine, etc.—F. C. Shattuck, Boston, Massachusetts, Chairman; G. A. Fackler, Cincinnati, Ohio, Secretary.

Surgery and Anatomy.—N. P. Dandridge, Cincinnati, Ohio, Chairman; W. O. Roberts, Louisville, Kentucky, Secretary.

Obstetrics and Diseases of Women.—W. H. Wathen, Louisville, Kentucky, Chairman; A. B. Carpenter, Cleveland, Ohio, Secretary.

State Medicine.—J. Berrien Lindsley, Nashville, Tennessee, Chairman; S. T. Armstrong, United States Marine Hospital, New York, Secretary.

Ophthalmology.—Geo. E. Frothingham, Ann Arbor, Michigan, Chairman; G. C. Savage, Nashville, Tennessee, Secretary.

Laryngology and Otology.—W. H. Daly, Pittsburgh, Pennsylvania, Chairman; E. Fletcher Ingals, Chicago, Illinois, Secretary.

Diseases of Children.—J. A. Larrabee, Louisville, Kentucky, Chairman; C. J. Jennings, Detroit, Michigan, Secretary.

Medical Jurisprudence.—J. G. Kiernan, Chicago, Illinois, Chairman; T. C. Evans, Baltimore, Maryland, Secretary.

Dermatology and Syphilography.—L. Duncan Bulkley, New York, Chairman; W. T. Corlett, Cleveland, Ohio, Secretary.

Oral and Dental Surgery.—F. H. Rehwinkle, Chillicothe, Ohio, Chairman; E. S. Talbot, Chicago, Illinois, Secretary.

Chairman Committee of Arrangements, R. R. Storer, M.D., Newport, Rhode Island.

Canadian Medical Association.—The General Secretary of the Canadian Medical Association, James Bell, M.D., of Montreal, has issued a circular announcing that special rates have been arranged for those who wish to attend the twenty-second annual meeting of the Canadian Medical Association, which will be held at Banff, N. W. T., on the 12th, 13th and 14th of August next.

The Canadian Pacific Railway Company has agreed to carry members and delegates with their wives or members of their families at the following rates: From points in Ontario or Quebec, to Banff and return at \$95.00 each, including a double berth in sleeping car for each person, and meals in the dining cars on the way West from Montreal or Toronto and back, and four days living at the Banff Hotel.

The passage tickets will be made good from and to any points on the Canadian Pacific Railway, in either Ontario or Quebec, to Montreal or Toronto, but berths and meals will begin at these two places only.

Owing to the provisions of the Interstate Commerce law, it will be impossible to get reduced rates from points in the United States, with the exception of St. Paul, Minn., from which the following rate is offered: \$60.00 to Banff and return, including meals and sleeping car accommodation *between Winnipeg and Banff only*. Delegates from the United States are therefore requested to make their own arrangements between their homes and Montreal, Toronto, St. Thomas or other points on the Canadian Pacific Railway.

In addition to the members of the Canadian Medical Association to whom that circular is specially addressed, a cordial

invitation is extended to all members of the regular profession in good standing in the Dominion of Canada, the United States and Great Britain, to whom the necessary certificates will be sent on application to the Secretary.

Members and delegates are requested to notify the Secretary of the points on the Canadian Pacific Railway from which they intend to start at a sufficiently early date to enable the railway company to forward special tickets to the aforesaid points.

It will also be necessary to present a certificate from the General or Provincial Secretary to enable members or delegates to secure the above mentioned special tickets.

Illinois State Medical Society.—At the Thirty-ninth Annual Meeting of the Illinois State Medical Society, to be held in Jacksonville May 21, the committee appointed at the last annual meeting of the society to revise its constitution and by-laws should make a report. One of the resolutions adopted in creating that committee was "That said committee be required to mail every member of this society a printed copy of the proposed constitution and by-laws at least sixty days prior to the next annual meeting in 1889."

Unless that resolution has been complied with it would be well for the society to defer action on the report of the committee, if radical changes should be recommended, until the society has had sufficient opportunity to carefully examine the proposed changes.

International Congress of Physiologists.—A Congress of Physiologists will be held at Bale, Switzerland, beginning on Tuesday, September 10th, 1889, to discuss physiological questions and such points of anatomy, histology, physics, chemistry, experimental pathology, and pharmacology as bear directly on physiology. It is stated that it is not intended to publish any record of the proceedings of the meeting.